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Review of Current Military Literature

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Fort Leavenworth, Kansas

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The object of this publication, is a review of current military literature, by cataloging articles of professional interest, in selected military and naval periodicals, in the domestic and foreign field. Articles from foreign language periodicals have translations of title and brief digests of contents. Material of particular importance is covered by a more detailed translation in "Abstracts of Foreign Language Articles."

The Section of "Book Reviews" contains reviews of the outstanding books, recently accessioned, which are of technical and professional interest.

June, 1932
Fourth Quarter

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(19) Willoughby, Maj. C.A. (Librarian)	5	23	2	1	

A—Foreign Language Periodicals
B—English Language Periodicals
C—Abstracts of Foreign Language Articles
D—Foreign Language Book Reviews
E—English Language Book Reviews

Section 1

DIRECTORY OF PERIODICALS

General.—Included in this directory are only those periodicals from which articles have been selected.

Arrangement.—Periodicals are arranged in two categories: (1) Military and Naval; (2) General.

An index number precedes the title of each periodical.

MILITARY AND NAVAL PERIODICALS

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6	Journal of the Royal United Service Institution	7
7	Journal of the United Service Institution of India	8
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9	American Rifleman	8
11	Army Quarterly	8
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15	De Re Bellica	10
16	Revista de Estudios Militares	11
17	Militär-Wochenblatt	12
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24	Revue Militaire Francaise	18
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40—Revue d'Artillerie 25
41—Coast Artillery Journal 26

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55a—Information Bulletin 29
56—Marine Corps Gazette 29

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66—Current History 29
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97—Asia 30
98—Historical Outlook 30
102—National Geographic Magazine 30
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116—Saturday Evening Post 30

Section 2

CATALOG OF SELECTED PERIODICAL ARTICLES

This section catalogs the articles selected from Library periodicals for the current quarter. To locate a particular periodical, consult the Directory (page 5). Periodicals in this Catalog are arranged in the order followed in the Directory.

1—ARMY AND NAVY JOURNAL

30 April 1932

(1) HOUSE EXCLUDES $2,500 PAY FROM ECONOMY CUTS
(2) OMNIBUS BILL. (Text)

7 May 1932

(3) 2000 ARMY OFFICER CUT RECOMMENDED TO HOUSE

14 May 1932

(4) HOUSE UPHOLDS OFFICER CUT

2—ARMY AND NAVY REGISTER

30 April 1932

(1) "TO EFFECT ECONOMIES"

7 May 1932

(2) ARMY APPROPRIATION BILL

14 May 1932

(3) A BILL TO ABOLISH THE ARMY
(4) PROPOSED ARMY RETIREMENTS. (Tentative List of Officers)

3—AMERICAN LEGION

April 1932

(1) DOUGHBOY—1932 MODEL

May 1932

(2) WAR IN WASHINGTON'S TIME AND NOW. Hughes

4—ARMY, NAVY AND AIR FORCE GAZETTE (Great Britain)

24 March 1932

(1) CAVALRY ORGANISATION
(2) THE SINO-JAPANESE CONFLICT. Brigadier-General Bruce
(3) KING ENVER OF TURANIA. (I) Lieut.-Colonel Murphy

31 March 1932

(4) NEW JAPANESE CRUISERS
(5) KING ENVER OF TURANIA. (II) Lieut.-Colonel Murphy

7 April 1932

(6) A WINGED BULLET (the "Halgar-Ultra")
(7) NEW ARMOUR-PIERCING SHELL
(8) KING ENVER OF TURANIA. (III) Lieut.-Colonel Murphy

14 April 1932

(9) THE CZECHOSLOVAK ARMY
(10) TRANSPORTING THE AMERICANS IN FRANCE. (Review of: "Transporting the A.E.F. in Western Europe, 1917-1919," by William J. Wilgus. Reviewed by Major-General M.G. Taylor)

21 April 1932

(11) SHANGHAI AND THE AFTERMATH. Brigadier-General Bruce

28 April 1932

(12) THE ARMED MEN OF CHINA. Lieut.-Colonel Stewart

5 May 1932

(13) ARE WE OVER-HORSED? Captain Laws
(14) THE SERVICES

12 May 1932

(15) THE ABOLITION OF TANKS. Major-General Gwynn
(16) THE SERVICES

19 May 1932

(17) BELOW TREATY LIMIT
(18) NEW WARSHIP TYPES
(19) FRENCH SUPER-DESTROYERS
(20) CHINA ARMED AND FOREIGN LED. Brigadier-General Bruce

26 May 1932

(21) THE SPANISH ARMY IN 1931

2 June 1932

(22) THE DISARMAMENT DEBATE
(23) OTTAWA AND IMPERIAL SECURITY
(24) FILMS AND TRAINING
(25) WAR OFFICE TRIALS OF MECHANICAL VEHICLES IN NORTH WALES

9 June 1932

(26) LEAGUE EXPENDITURE
(27) CONDUCT OF WAR—A SIDELIGHT
(28) THE FUTURE OF MANCHURIA—A JAPANESE VISION. Brigadier-General Bruce

16 June 1932

(29) THIS DISARMAMENT
(30) LIGHTER INFANTRY EQUIPMENT

23 June 1932

(31) POST-WAR DESTROYERS
(32) PLASSEY, 1757. Captain Laws

5—FIGHTING FORCES (Great Britain)

April 1932

(1) ADDRESS ON TRAINING, GIVEN AT CAIRO, OCTOBER, 1931. Lieut.-General Burnett-Stuart
(2) VISUALIZING THE SITUATION. By A.D.D.
(3) THE PASSAGE OF THE MARNE BY THE 200TH DIVISION, JULY 15TH, 1918. Colonel Grasset
(4) REPAIR AND MOBILITY. Major Shaw
(5) NOTES ON THE PALESTINE CAMPAIGN: I.—UP TO FIRST GAZA. Major Burne

6—JOURNAL ROYAL UNITED SERVICE INSTITUTION (Great Britain)

May 1932

(1) THE GOLDEN MOMENT. Rear-Admiral James
(2) THE STUDY OF WAR BY JUNIOR OFFICERS. Major McNair
(3) TECHNICAL EDUCATION IN THE ARMY. Captain Cooper

(4) NAVAL DISCIPLINE. Paymaster-Captain Murray
(5) A FLIGHT TO ABYSSINIA. Squadron-Leader Vachell
(6) TANKS AND INFANTRY IN THE ATTACK IN MOBILE WARFARE. By "Forward"
(7) A TANK OF THE FUTURE: THE ULTRA BULLET AND ITS POTENTIAL EFFECTS. By "L.V.S.B."
(8) BROADER ASPECTS OF NAVAL STRATEGY: SOME FRENCH VIEWS. Captain Thomson
(9) THE DEFENCE OF THE SUEZ CANAL. Lieutenant-Colonel Smith
(10) AIRCRAFT ATTACKS ON WARSHIPS: AN HISTORICAL SUMMARY. Major Stewart
(11) FLYING BOATS AND THE WAR AT SEA. By "Zetes"
(12) ANTI-AIRCRAFT GUNNERY: I.—BY A PILOT; II.—BY A GUNNER
(13) THE MAINTENANCE OF MECHANIZED FORMATIONS. Lieutenant-Colonel MacPherson
(14) INFANTRY REORGANIZATION. Major Ashworth
(15) THE PROBLEM OF THE LIGHT AUTOMATIC GUN. Captain Gamble
(16) THE SINGLE-SEATER FIGHTER TACTICAL UNIT FOR HOME DEFENCE. Squadron-Leader Andrews
(17) THE FIGHTING AT SHANGHAI
(18) THE LEAGUE OF NATIONS AND THE SINO-JAPANESE CONFLICT
(19) ARMY NOTES

7—JOURNAL OF THE UNITED SERVICE INSTITUTION OF INDIA (Great Britain—India)

April 1932

(1) THE BURMESE REBELLION, 1931
(2) MACHINE GUNS ON THE NORTH WEST FRONTIER. Captain Pulling
(3) THE HANKOW "INCIDENT"
(4) THE SUPPLY AND TRANSPORTATION PROBLEM OF FUTURE ARMIES. Major Dening
(5) MANCHURIA. Major Mullaly
(6) TRAIN THE BRAIN. By "Zarif"
(7) THE PERSIAN CAMPAIGN OF 1856-57. Lieut.-Colonel Murphy
(8) THE NEW INFANTRY TRAINING, VOLUME II. Captain Gompertz

9—AMERICAN RIFLEMAN

June 1932

(1) MACHINE GUNS. Major Hatcher

11—ARMY QUARTERLY (Great Britain)

April 1932

(1) VERDUN: FALKENHAYN'S STRATEGY
(2) BRITISH LAND-STRATEGY IN THE WAR AGAINST NAPOLEON, 1803-1814: THE INFLUENCE OF THE ECONOMIC AND POLITICAL FACTORS. Part II. Major-General Bird
(3) GERMANY AND DISARMAMENT. Lieut.-General von Taysen-Potsdam
(4) THE FUTURE OF INFANTRY. Brevet-Colonel Majendie
(5) "THE GREATER AND THE LESS": A TRAINING PROBLEM. By "Tempora Mutantur"
(6) A FORGOTTEN CAMPAIGN. Jarvis
(7) SOME ADMINISTRATIVE PROBLEMS WITHIN A DIVISION. Colonel Badcock
(8) THE HISTORY OF THE GREAT WAR: MILITARY OPERATIONS—FRANCE AND BELGIUM, 1916. Vol. I. Compiled by Brigadier-General Sir J.E. Edmonds
(9) THE BRITISH ARMY ON ACTIVE SERVICE, 1758-1759. Clemens
(10) THE ECONOMICS OF WAR. Major Caillard
(11) A GERMAN LANDING: THE CAPTURE OF THE BALTIC ISLANDS, OESEL, MOON AND DAGÖ, OCTOBER, 1917

12—BOLETIN DER EJERCITO (Cuba)

BY MAJOR C A. WILLOUGHBY

March-April 1932

(1) EL CENSO DE CUBA EN 1931. [The census of 1931 of Cuba.] Extract from current census of Cuba (1931) in which the principal towns and villages are listed in alphabetic order, with the number of inhabitants (Gaceta Oficial No. 52, March 4, 1932). The letter after each name, indicates the province in which the town is located. Data of military-geographical interest.
(2) UNA RESEÑA DEL COMBATE DEL CANEY EN CUBA. [Notes on the fight at "El Caney."] Report of a participant of this action, July 1, 1899, representing the Spanish viewpoint and impression of that famous engagement.
(3) LA GUERRA DE NOCHE. [Night operations.] Capitán Ahumada. (Military-historical study of the characteristics and execution of night operations.) (See abstract, page 64)
(4) REGLAMENTO DE MANIOBRA DE INFANTERIA. [The new infantry drill and field service regulations (combat).] This section of the new drill regulations for the Cuban Army deals with the sections devoted to the organization and combat mission of tank (Sec. 291-313). Chapter 2 covers "Combat without artillery support"; Chapter 3, "Reconnaissance: (a) Patrols; (b) Scouts."

13—BULLETIN BELGE DES SCIENCES MILITAIRES (Belgium)

BY MAJOR C.A. WILLOUGHBY

April 1932

(1) LES OPÉRATIONS DE L'ARMÉE BELGE PENDANT LA CAMPAGNE 1914-1918.—PÉRIODE DE STABILISATION.—L'ARMÉE BELGE SUR LE FRONT MER DU NORD-ABORDS D'YPRES (6 JUIN-17 SEPTEMBRE 1918). [The operations of the Belgian Army during the War 1914-1918. Period of stabilization. The Belgian Army on the front: North Sea—Ypres, 6 June-17 September 1918.] This belongs to a series, edited by the Belgian General Staff, designed to present a brief account of the principal operations of the Belgian Army, in the form of monographs on selected periods. This study covers the German offensives of May, June, and July, (The offensives of March and April were studied in the December number of the Bulletin.) and the Belgian counter-operations. The subject is arranged as follows: Extension of the Belgian Front (copies of orders of Marshal Foch and the reply of the Belgian G.H.Q.). Occupation of the Belgian front. (A detailed account of Belgian defensive dispositions, with schematic diagram.) Operations. (A tabulation of German and Belgian activities, in the period June 1-Sept. 17th.) In this category, there are interesting data regarding the technique of raids, or coups-de-main, and the extent of artillery support to insure success.
(2) PAGES D'HISTOIRE DE L'ARMÉE BELGE AU COURS DE LA GUERRE 1914-1918.—LA RECONNAISSANCE OFFENSIVE SUR LE CHÂTEAU DE LA BORNE 19 (OCTOBRE 1917). [History of the Belgian Army during the War of 1914-1918. The raid on Chateau de la Borne, October 1917.] Major Dendal.

An incident from the offensive in Flanders, 1917, giving a detailed account of a raid on a German strong-point, that was particularly successful in method of execution and in results. The study is very methodical, from the viewpoint of a company commander, and

contains valuable hints for that type of operation. The progressive character of the material can be seen by the arrangement of subtitles: I. The Preparation: Verbal orders; Initial dispositions; Study of the mechanics of the attack: (a) Scheme of operations, (b) Formation for assault (A sketch showing the actual dispositions); Arms and equipment; Care of wounded; Cooperation of engineers; Communications. The attack order is given in detail, as an interesting historical example of the elaborate orders in vogue, in that period. Chapter IV describes the execution of the raid—an account containing valuable data on psychological reactions on individuals.

The author, Major Dendal (in command of that operation) sums up his experience in the following lessons: (a) Surprise is the most essential factor in raids; (b) Resistance must not delay the entire attack but only the fraction of the assault unit directly affected; (c) The assault echelon cannot afford to await the complete destruction of enemy shelter, in preparation fires, but must hug the barrage closely and take the defender by surprise; (d) Shell holes must be inspected as likely cover for the defender; (e) Liaison with artillery pre-arranged with the utmost care; (f) Communications (Runners and rockets found preferable; other means failed.). The study contains an excellent map, 1/2500 and aerial photographs.

(3) LA DÉFENSE DES LOCALITÉS. [The defense of organized localities.] By J.L.H.

This study was inspired by the conference of Colonel Touchon (Ecole Sup. de Guerre) "L'infanterie dans les localités." Shall localities (villages, hamlets, clusters of houses) be organized for defense? The situation should indicate it; prime requisites are that the "locality" has a field of fire, possibilities of flanking fire, that it represents a real obstacle and contains cover of some endurance. While such a locality becomes the target of artillery, it will also furnish better cover than hasty entrenchments; the conclusion is in favor of the organization and occupation of localities, since advantages outweigh disadvantages; from the broad viewpoint of the defense, an organized locality requires expensive, time-consuming preparation on the part of the enemy.

It is held that the effect of artillery against solid masonry is overrated, and the historical record, during the World War, of the resistance of villages, etc., is favorable for the defense; complete destruction requires considerable time; frequently, vaulted basements have survived for remarkably long periods.

Such an obstacle is generally exposed to efforts of capture by flanking action; this tendency must be guarded against, from the outset. The method of organization and sequence, or priority, of tasks is indicated as follows: (1) M.G. emplacements, for flanking fire; (2) Obstacles and firing positions; (3) Improvement of cellars and bomb-proof shelters; (4) Communications.

Infantry will play the most important role: unity of command, for the same locality. Artillery will be called upon to cooperate in protective and defensive fires, protective barrages, etc., especially directed against hostile flanking action. Conclusion: "An organized locality, within a defensive organization, can be utilized with profit; it must be understood, however, that organization requires considerable labor; however, it is worth the effort."

May 1932

(4) PAGES D'HISTOIRE DE L'ARMÉE BELGE AU COURS DE LA GUERRE 1914-1918.—UN RAID DE 4E CHASSEURS A PIED. [History of the Belgian Army during the War of 1914-1918. A raid by the 4th Chasseurs.] A detailed account of a typical, organized raid, as practiced in 1917, executed by a unit of the 3d Division (Belgian), Oct. 28, 1917, in the Sector of Oudstuyvekenskerke. The study contains significant data regarding ammunition expenditures, by the supporting artillery, as an indication of the extraordinary and expensive measures, which these local and relatively unimportant engagements required. There is a good map (Plan Directeur 1/2000) to follow the routes of the raiding detachments.

(5) WATERLOO. MAGIE ET TACTIQUE. [Waterloo. Magic and tactic.] Colonel Van Egroo

A curious, meandering study of Waterloo. Against the back-ground of modern conditions, the author appears to have succeeded in this paradoxical comparison. He has made a recent visit to the battlefield of Waterloo, and makes a note of the changes, in topography and appearance. The operations of 1815 are seconded by curious reflections on the effect of modern methods, in like circumstances. The close proximity of the combatants (1815) is compared with the vast extent and emptiness of modern battlefields; the preliminary and extensive operations before contact is gained nowadays, with the sudden shock of the "mass" in the Napoleonic Armies.

As regards the team-play of arms, he thinks the vain assault at Hougue mont and La Haye-Sainte resemble certain modern attacks, without adequate artillery support or preparation: Infantry cannot fight alone (against positions). There were examples of brilliant artillery action, at Waterloo—an intense preparation fire, at 1 o'clock, and again at 4 P.M., the artillery support, at 6 P.M., of the remnants of Allix, Douzelot and Marcognet, along the road from Ohain.

The author regards the final employment of reserves, in a tactical "equilibrium," as decisive in ancient or modern wars. The situation, after the capture of La Haye-Sainte appears to him as the critical moment: unfortunately Napoleon relaxed when "continuity of effort" was called for.

(6) L'ENGAGEMENT. [The engagement.] Capitaine Gérard

An analysis of existing Belgian Field Service Regulations on the subject of "Offensive operations," particularly that phase which is an introduction, or "preliminary" to battle.

A distinction is made between methods against (1) an enemy in a thoroughly organized position and (2) an enemy in movement, or in a hastily organized position. In the one case a slow, methodical advance is indicated, leading eventually to a break-through; in the other, greater liberties can be taken and "speed" is a determining factor.

The article is one of glittering generalities, of no particular value, except one curious datum:—For a "typical" meeting engagement, the author believes the employment of 2 Bns. adequate, for a normal division.

The article concludes with a map problem and a solution that contains rather complete field orders.

June 1932

BY MAJOR N.B. BRISCOE

(7) LA BELGIQUE DANS LA GUERRE AERIENNE. [Belgium in aerial warfare.] Major Van der Donckt

Major Van der Donckt discusses aerial warfare as related to gas attacks with particular deference to the effect on the civilian population. He goes into "Technical Possibilities of Aviation," "The Geographical Situation of Belgium," and the "Means at the Disposal of Belligerents," the "Protection of the Population" both active and passive, and concludes that such attacks have a limited effect which must be offset by maintenance by the government of the will of the people to resist, and exhorts action at Geneva to do away with the weapons of attack from the sky.

(8) L'INFANTERIE SUR DES FRONTS TRÈS ÉTENDUS. [Infantry on widely extended fronts.] Capitaine Wanty

Captain Wanty discusses principles and an illustrative problem (with a map) in which a force of two companies with auxiliary weapons is to engage in delaying an enemy at the frontier. There is map study, reconnaissance of five positions, allotment of riflemen, infantry weapons, and artillery, organization of command, observation, communications, supply and special measures for bands of fire. He concludes that late developments of armaments are especially favorable to the defense.

(9) CONSTITUTION DU CHARROI D'UNE DIVISION D'INFANTERIE EN GROUPEMENTS DE MARCHE. [Organization of the transport of an infantry division into march groups.] Capitaine Flahaut

Captain Flahaut handles an illustrative problem in C.S.L.

(10) LES COMBATS DE RECONTRE DANS LA FORÊT DE LUCHY ET PRÈS D'OCHAMPS LE 22 AOÛT 1914. [The meeting engagements in the Forest of Luchy and near Ochamps, 22 August 1914.] Major Allemann

This article is a translation into the French of an article in German by Major R. Allemann, Swiss Army.

Major Allemann studies the encounter between the XVIIIth Corps, German, and the XVIIth Corps, French. The general situation is the Battle of Ardennes, and the special situation is the particular affair of the XVIIth Corps, French, being caught in the flank by the XVIIIth Corps, German.

The organization of the armies, and of these two corps are given, also two maps are shown, but many places mentioned do not appear on either map.

Major Allemann takes each side and gives a chronological account of the encounter by patrol, company, battery and battalion, including many names of junior commanders, the actions and orders of the French artillery commander, and one of the German staff officers.

From the standpoint of the C & GS School there is nothing new in this study, except a very vivid picture of the difficulty of control of units in a closely wooded country, the failure of the French to reconnoiter, the holding by the Germans of their cavalry in rear of the infantry, and the high percentage of losses on both sides.

(11) LA RADIOGONIOMÉTRIE. [Radiogoniometry.] Capitaine Leloup

Captain Leloup writes a non-technical treatise on radio and its employment, for the benefit of his compatriots who have neither the technical training nor the time to study the subject.

14—CANADIAN DEFENCE QUARTERLY (Canada)

April 1932

(1) THE CAVALRY ARM IN THE N.P.A.M. (Editorial)
(2) TERRITORIAL ARMY MECHANIZATION
(3) SOME PROBLEMS OF IMPERIAL DEFENCE. Admiral Richmond
(4) THE MINERAL POSITION OF THE BRITISH EMPIRE. Camsell
(5) THE STORY OF THE TWO SNAKES. By "Infanteer"
(6) THE MONGOL INVASION OF KHWARAZM. Flight Lieutenant Walker
(7) ROCKETEERS. LeSueur
(8) PREPARE TO MOUNT. Captain Fourneret
(9) AN AMERICAN ACCOUNT OF THE PRESCOTT RAID OF 1838
(10) NEPAL AND THE GURKHAS

15—DE RE BELLICA (Germany—Spanish text)

BY CAPTAIN W.F. SAFFORD

Number 12, 1930-31

(1) PROTECCIÓN ARTILLERA DURANTE LA MARCHA EN COLUMNA Y APROXIMACIÓN AL ENEMIGO. [Artillery protection during the march in column and in proximity of the enemy.] Teniente Coronel Voight-Ruscheweyh.

Protection of the advance may be divided into two classifications: (1) when contact is not imminent, and (2) when it is. The former must consider both enemy airplanes and armored cars. In this article simple formations are given and stress is laid on observers (scouts).

(2) LA ARTILLERÍA PESADA EN EL PORVENIR. [The heavy artillery in the future.] General Göldner

German opinion does not concede the replacement of artillery by tanks or bombers. Moreover, heavy artillery must be an organic part of the division. Likewise the cavalry division should have some heavy artillery. The Germans even go so far as to advocate a 1:1 proportion of heavy and light.

(3) EVOLUCIÓN DEL SUBMARINO DESPUÉS DE LA GUERRA. [Questions on naval warfare. Evolution of the submarine since the war.] Contralmirante Spindler.

Article on the increase in displacement, armament and cruising radius of submarines, accompanied by several photos showing the most recent types of various nations.

(4) EL DOMINIO DEL AIRE EN LA GUERRA NAVAL. [Aerial problems. Donimation of the air in naval warfare.] Almirante Gadow

A discussion of the radical theories of the Italian General Donhet. (1) Superiority in the air is the objective of aerial warfare; (2) The maximum effect will be gained by concentrating all air forces as an independent force; (3) Such a force should consist of planes of uniform type which combine the qualities of bombardment and attack; (4) The other auxiliary planes of the army and navy are useless, superfluous, and dangerous. Since Balbo, Minister for Air, and Mussolini are converted to these theories the situation in Italy is evident in spite of reclamas by army and navy. The author does not agree with the theories and shows wherein they are untenable

(5) EL NUEVO REGLAMENTO TÁCTICO AUSTRIACO (Segunda parte). [The new Austrian tactical regulations. (Second part)] Teniente Coronel Rendulic

The first chapter dealt with delaying actions. This chapter (II) treats of combat in "covered terrain" (woods and localities). The regulations also consider night operations in

the same category. A special chapter (of the regulations) deals with attack and defense of defiles and passage and defense of rivers. This review points out many of the things taught at the C & GSS but presents nothing new: it is, however, an excellent summary of the principles involved.

(6) APUNTES SOBRE EL ARMAMENTO MODERNO DE LA INFANTERÍA Y CABALLERÍA. [Notes on modern armament of infantry and cavalry.] General Faupel

Tracing the development of "machine rifles," "automatic rifles" and light machine guns and the consequent changes in organization, especially the increase in automatic weapons per company. The author is in favor of but one type of machine gun instead of two (light and heavy), or more, and having the guns as integral parts of each rifle company. A large caliber machine gun has sufficient advantages to warrant its incorporation in the battalion as well as semi-automatic accompanying cannons. The individual rifleman should have a semi-automatic rifle with about 10 cartridges to the clip.

(7) LA TENDENCIA HACIA EL FUSIL AUTOMATICO. [The tendency toward the automatic rifle.] Comandante Welsch

This author bases his article on the French maneuvers of 1930 in which it was demonstrated that increase in automatic weapons has greatly increased the front that can be held by a unit. However much improvement has been made in auxiliary weapons, the rifle still lags behind, and the improvement in machine guns, and the increase in number, only serves to emphasize the necessity for self-loading rifles.

(8) INDUSTRIA MILITAR ESPANOLA. [Spanish military industry.] Description of a machine rifle very similar to our well-known Browning automatic, as modified by the cavalry, with bipod and butt rest.

(9) LA TRANSFORMACIÓN DE LA CABALLERÍA. [The transformation of the cavalry.] General Brandt

No arm has experienced such a radical transformation as the cavalry, due to the fact that before the last war there was a tendency to conserve the tactics and methods of employment that had been successful in previous wars. Although opinions were expressed there was no unity of thought. Moreover, most attention was always paid to the infantry and artillery. When the World War broke out few officers of any army knew how to handle cavalry. In the European armies the cavalry was deficient in fire power of all kinds. The lesson learned is that the division should be a unit of all arms.

(10) UNA OPINIÓN RUSA SOBRE LA GUERRA DEL FUTURO. [A Russian opinion on the war of the future.] General Henrici

The article, taken from the military review of the Red army, attempts to deduce from the experiences of the last war, lessons for the future. Since hate makes the best critics, the Bolshevik author's comments merit attention. The points mentioned, however, produce no new thought as far as tactical and technical questions are concerned, except to show the reliance the Russians place in tanks and gas. The latter half is filled with propaganda for the Russian proletariat.

(11) ALEMANIA PIDE EL DESARME GENERAL, EN NOBRE DE SU SEGURIDAD AMENZADA, EN NOMBRE DE LA JUSTIBIA EN INTERÉS DE LA PAZ VERDADERA. [Germany asks for general disarmament.] As is natural, since the magazine is published in Berlin and the majority of contributors are German, the article is propaganda. The condition of Germany, disarmed by the Treaty of Versailles, and its insecurity in the air, on land (both troops and fortifications), and on the sea is shown and compared with other nations. The plea is for other nations to disarm to the same (relative) degree as Germany.

(12) EL DESARME VERDADERO. [True disarmament.] Kirchhoff

Another article, in the same vein as the foregoing, showing that Germany is the only nation in Europe that has disarmed and whose security is threatened.

16—REVISTA DE ESTUDIOS MILITARES

(Spain)

[Formerly, "La Guerra y su Preparación"]

March 1932

BY MAJOR C.A. WILLOUGHBY

(1) LOS PRINCIPALES FACTORES DETERMINANTES DEL ÉXITO, EN LA MANIOBRA ALEMANA ALREDOR DE METZ (1870). [The principal factors in the success of the German maneuver at Metz, 1870.] Comandante Villegas

The campaign of 1870, between France and Germany, was the last and most perfect directed by Marshal v.Moltke, whose strategic conceptions may be regarded as marking a distinct phase in the evolution of the art of war. There is no question that this campaign exercised a profound influence upon military thought, up to the year 1914. This article is a brief summary of events, and critical comments bearing on the encircling maneuver that led to the surrender of Bazaine. (Attached: a clear, general orientation sketch.)

(2) FUERZAS "MECANIZADAS"; UN CAMBIO DE ORIENTACIÓN. [Mechanized forces.] Capitán Planell

A reference to the "American" doctrine of the employment of mechanized forces, in conjunction with the cavalry, and its effect upon that arm. Specific reference is made to General MacArthur.

(3) TEMAS DE LOS EJERCICIOS PARA EL INGRESO EN LA ESCUELA SUPERIOR DE GUERRA DE PARIS. [Examination for admission to the Ecole Superieure de Guerre.]

Summary of tests and problems solved by candidates for a mission to the Ecole Superieure de Guerre, 1932. In tactics, the problem involved the "offensive action of a division," in a mobile situation, on a front of 5 kms., with a "limited amount of artillery ammunition" available for the attack. This was regarded as a significant departure from previous tests and a tendency to get away from the influence of stabilized warfare (1918). The detailed requirements covered:

(1) Complete the attack order of the division;
(2) Study of disposition and location of one of the infantry regiments, with a view to attack the next morning;
(3) The attack order for this regiment;
(4) Study of artillery fires, in direct support of this regiment, in the form of a request by the regimental commander;
(5) The scheme of signal communication and artillery liaison:
(6) Comments on the above.

(4) LA DEFENSA DE LA POBLACIÓN CIVIL EN TIEMPO DE GUERRA. [The defense of the civil population against aerial attack.] Coronel Coque

This article reflects the uneasiness of all responsible authorities abroad against this new menace. The German review "Kriega-

kunst" published a graphic article on the (fictitious) night bombardment of the City of Nuremberg. The Italian review "Esercito et Nacione" describes a similar attack against Turin. This latter was an actual maneuver, with the object to educate the civil population. In 1930 400 million francs were voted for civil protection. In 1930, the scheme of defense was centralized and placed in the hands of a military service. Other countries are adopting similar means.

(5) EL CONFLICTO CHINO-JAPONÉS. [The Chino-Japanese conflict.] Teniente Coronel Beigbeder
Summary of recent operations, with a general orientation map.

April 1932

BY CAPTAIN J.C. WHITCOMB

(6) LA INTENDENCIA DESPUÉS DE LA GRAN GUERRA. [The service of supply since the Great War.] Coronel Colmenares
A plea for a better understanding of the problems of supply of modern armies. Three subheads: the action; the means; the procedure.

(7) LA GUERRA QUIMICA. [Chemical warfare.] Capitán Navacerrada
A general discussion of the attitude of nations toward gas, gas in industry, future potentialities, classifications, etc.

(8) EL CONFLICTO CHINO-JAPONÉS. [The Sino-Japanese conflict.] Teniente Coronel Beigbeder
A brief outline of the Shanghai affair, based on press reports and an attempt to determine Chinese military strength based on Chinese official reports of 1929.

17—MILITAR-WOCHENBLATT (Germany)

BY MAJOR A. VOLLMER

18 March 1932

(1) DIE STREITKRÄFTE IM FERNÖSTLICHEN KRIEGE. [The fighting forces in the war in the Far East.]

(2) GUMMIBEREIFTE RÄDER AN PFERDEBESPANNTEN FAHRZEUGEN. [Rubber tired wheels on animal-drawn vehicles.] The military desiderata in a transport wagon (easy traction, maximum weight capacity, ease of loading and unloading, maneuverability, favorable center of gravity, protection of cargo, and facilities for hitching to motor vehicles) seem to be met by this new German type of the Graguwa Company in Waren (Mecklenburg). In tests, in competition with wagons of ordinary type, it was found that the pneumatic tires with which it is equipped made it possible to carry two or three times the load of wagons without such tires. They were especially suitable in deep sand. For combat and baggage wagons the greatly increased load capacities of any of the three sizes of wagons of this type are not essential, but such capacities are of importance for the service trains. The estimate is that 8 of these wagons will do the work of 40 of the old type, requiring 16 horses instead of 80. And, moreover, without any alteration, they are suited, in emergency, to be coupled to motor vehicles for distant transport.

(3) TAKTISCHE AUFGABE 6. [Tactical exercise No. 6.] Subject: Use of obstacles. Map: Great maneuver map 1930, 1:100,000. III. Continuation of solution; (c) Orders issued.

(4) INDUSTRIELLE UND PERSÖNLICHE MOBILMACHUNG IN DEN VEREINIGTEN STAATEN. [Mobilization in the United States; man power and industry.] (I) Oberstlt. Otto

25 March 1932

(5) LANGEMARCK UND SCHANGHAI. [Langemarck and Shanghai.] Generalleutnant v.Metzsch

(6) MUNITIONSNACHSCHUB IM SCHÜTZENKAMPF. [Munition supply in trench warfare.] The views of a company commander in the World War as to the means of effecting adequate munition supply, including a detailed account of his successful organization of this in his unit in the attack on Kemmel in April 1918.

(7) INDUSTRIELLE UND PERSÖNLICHE MOBILMACHUNG IN DEN VEREINIGTEN STAATEN. [Mobilization in the United States; man power and industry.] (II) Oberstlt. Otto

(8) HABEN PANZERFAHRZEUGE MIT RÄDER-RAUPENANTRIEB EINE ZUKUNFT? [Do tanks with wheels and caterpillar tracks have a future?] The author concludes that the effort to secure a caterpillar track vehicle with strategic mobility has not succeeded. Therefore this end is now sought in a vehicle which has both caterpillar tracks and wheels. This vehicle should solve all the main missions of mechanized armies.

(9) AUS DER WERKSTATT DER TRUPPE: TRUPPEN-GELÄNDEBESPRECHUNGEN EINER BATTERIE. [From the workshop of the troops: Discussion of the terrain in a battery.]

4 April 1932

(10) DIE FELDBEFESTIGUNG IM DIENSTE DER OPERATION. DARGESTELLT AM OSTPREUSSISCHEN KRIEGSSCHAUPLATZ 1914-15. [Field fortifications in support of operations. East Prussian front, 1914-15.] (I) Generalmajor Klingbeil. (See abstract, page 51)

(11) DIE STREITKRÄFTE IM FERNÖSTLICHEN KRIEGE. II. Die japanische Wehrmacht. [The opposing forces in the war in the Far East. II. The Japanese forces.]

(12) EINSATZ UND KAMPFESWEISE DER MASCHINENGEWEHR-KOMPANIE. [Employment and technique of the machine gun company.] Two facts give the employment and technique of the heavy machine guns a new character: the increased effectiveness of the light machine gun through re-design of its bipod, and the augmented fire power of defensive weapons, especially trench mortars. The cone of fire of the light machine gun, at ranges up to 1200 meters, is now comparable to that of the heavy machine gun. This development relieves the heavy machine guns of missions whereby their units are divided, and separate guns attached to rifle companies. The heavy machine gun units can now be kept intact.

Firing from concealed positions now becomes more of a factor. The heavy machine gun units may now be disposed in depth, leaving the closer targets for the light machine gun.

The machine gun company commander, through these new missions and tactics, becomes more important. He must go to the artillery for instruction in communications, fire distribution, fire direction, and target alternation. He should participate in artillery operations.

But firing from concealed positions is not the only use to be made of these weapons. Fire superiority is still more important than concealment. Fire from exposed positions will continue to be necessary. Surprise fire becomes more important now, with the increased effectiveness of the defensive weapons, both to attain effect and lessen casualties. Against weapons equipped with armored shields no effect is to be expected through frontal attack by machine guns. On the other hand, the light trench mortar, 18, can silence an enemy heavy machine gun in 1½ to 2 minutes by 6 to 8 rounds up to 2400 meters distance. In a duel between these two weapons the

advantage is unquestionably with the trench mortar.

The battle tactics of the heavy machine gun must adapt itself to this fact. To this end the following points are of importance:

(1) Choice of fire positions.—It is essential that only those be chosen which can be screened from enemy observation. If there are only exposed positions when surprise fire, and secret change of position are not possible, then the guns must be placed in neighboring sectors, or left out of the picture.

(2) Target designation.—Emphasis in the field, and in all training connected therewith, must be placed on targets at over 1200 meters distance.

(3) Battle tactics and fire direction.—The conduct of the fire fight under unified control by the leader is only possible in the cases in which there is undisturbed occupation of the position.

In conclusion it is to be noted that tactical success is of first importance, and technical success is secondary. This tactical success depends on the time elapsing between recognition of the target and the first shot, and on the time of effective fire thereon.

(13) DER HINHALTENDE KAMPF. [Delaying action.]

(14) KURZWELLENFUNKDIENST UND HEER. [Short wave radio service and the Army.]

(15) AUS DER WERKSTATT DER TRUPPE: PLANMÄSZIGES TRAINING EINER SCHÜTZENKOMPANIE AUF MARSCHHÖCHSTLEISTUNGEN. [From the workshop of the troops: Systematic march training of a rifle company.] A plan of march training devised for the purposes of the German Army. The details dove-tail with the years training program in Germany and are particularly suitable only for same. An interesting point is mentioned, viz., that a laborer performs in 8 hours 300,000 m/kg work, while a soldier with 28 kg pack during a 24 km. march performs 500,000 m/kg.

(16) TAKTISCHE AUFGABE 7. [Tactical exercise No. 7.] Successful pursuit by a cavalry division. Map: Great maneuver map 1930, 1:100,000. I. Problem.

(17) DER GESUNDHEITSZUSTAND DES ITALIENISCHEN UND DES FRANZÖSISCHEN HEERES. [The health of the Italian and French Armies.]

11 April 1932

(18) DIE FELDBEFESTIGUNG IM DIENSTE DER OPERATION. DARGESTELLT AM OSTPREUSZISCHEN KRIEGSSCHAUPLATZ 1914-15. [Field fortifications in support of operations. East Prussian front, 1914-15.] (II) Generalmajor Klingbeil. (See abstract, page 51)

(19) DIE NEUBILDUNG DES FRANZÖSISCHEN MINISTERIUMS FÜR NATIONALE VERTEIDIGUNG. [The creation of the French Ministry of National Defense.]

(20) LUFTFAHRT-RUNDSCHAU. [Aerial survey.] Hauptmann Ritter

(21) ÜBERWINDUNG DER LETZTEN 200 METER. [The advance in the last 200 meters.] A discussion of the support of the infantry in this phase of combat by the use of machine guns and other weapons mounted on light tanks.

(22) DIE MOTORISIERUNG DER KAVALERIE-DIVISION. [The motorization of the cavalry division.] Based on the idea that the main body of a cavalry division must remain mounted cavalry and horse artillery, this article consists of a short consideration of the extent and type of the motorized elements, as well as of organization schemes which are suitable for a cavalry division composed of both elements.

(23) TAKTISCHE AUFGABE 7. [Tactical exercise No. 7.] Successful pursuit by a cavalry division. Map: Grand maneuver map 1930, 1:100,000. II. Solution.

18 April 1932

(24) DIE SCHLACHT AM OURCQ IN NEUER BELEUCHTUNG. [The battle on the Ourcq in a new light.] General v.Kuhl

(25) UNTERSTELLEN ODER ANWEISEN? [Attached or "in support."] Genlt. Marx. This article deals with the question of whether artillery should be attached to the infantry or in support thereof. The author concludes that there are cases when one method is preferable, and others when the other method is preferable. So, for example, when a division marches through difficult country in different columns against the enemy, and these columns become separate self-sustaining combat groups, then, obviously, the artillery should be attached. On the other hand, in country which is open and visible, a united attack by all elements of a division requires only that the artillery be in support. But the salient point in this consideration the author finds in whether or not liaison is maintained between the artillery unit and the artillery commander, enabling the latter to issue orders to it in the name of the division. Then it matters not whether such unit is attached or in support. Moreover, the question finds its own solution whenever commanders get away from pride of branch. Whenever the artilleryman or infantryman is convinced that the other branch is doing its utmost to help, then the difficulty is obviated.

(26) GEFECHTSAUSBILDUNG FÜR DEN GASKAMPF. [Combat training for chemical warfare.]

(27) RUSSISCHE ANSICHTEN ÜBER KAMPFWAGEN-TAKTIK. [Russian views on tank tactics.]

(28) AUS DER WERKSTATT DER TRUPPE: DARSTELLUNG VON FEINDFEUER. [From the workshop of the troops: Representation of enemy fire.]

(29) TAKTISCHE AUFGABE 7. [Tactical exercise No. 7.] Successful pursuit by a cavalry division. III. Continuation of the solution. (3) Division orders for 29/8.

25 April 1932

(30) GEGENWARTSFRAGEN IN DER TSCHECHO-SLOWAKISCHEN ARMEE. [Questions of the day in the Czechoslovakian Army.]

(31) NEBEL ALS ANGRIFFSWAFFE. [Fog as an aid to the attack.] The author believes that not enough attention has been paid to artificial "fog." He contends that it would be invaluable in the attack across open terrain, in the surprise attack without artillery preparation, in the attack against trenches sheltering a weaker enemy who has, however, machine guns at his disposal, and finally in the attack against concrete emplacements.

(32) LUFTSPÄHDIENST UND LUFTWARNDIENST. [A vigilance service against aircraft.]

(33) AUS DER WERKSTATT DER TRUPPE: DER KAVALLERIE-SPITZENZUG. [From the workshop of the troops: The cavalry point.]

(34) TAKTISCHE AUFGABE 7. [Tactical exercise No. 7.] Successful pursuit by a cavalry division. Map: Grand maneuver map, 1930, 1:100,000. IV. Discussion.

4 May 1932

(35) HINHALTENDE KAMPFFÜHRUNG. [The conduct of delaying actions.]

(36) ALTES UND NEUES AUS DER REITVORSCHRIFT. [Old and new in cavalry training.] General von Poseck

(37) PIONIER UND MASCHINENTECHNIK. [Engineers and mechanization.] General Klingbeil

The mobility and flexibility which motors give to maneuver has a far reaching effect on construction of ways and bridges, as well as on the demolition of such works. Thereby the Engineers take on a new importance. To perform their more extensive missions, they, in turn, must be given mobility. Increased range of artillery, and the employment of the air arm, has greatly affected the attack and defense of river lines. This necessitates rapid construction of bridges as well as rapid demolition. Motorized Engineers will be needed for this.

But the Engineers must also be given the latest power tools of all kinds to enable them to fulfill the missions thrust on them by the new developments in weapons, which so fundamentally affect tactics.

(38) ERZIEHUNG DER AMERIKANISCHEN JUGEND ZUR WEHRHAFTIGKEIT. [Military training of the American youth.] II. Citizen military training corps.

(39) TAKTISCHE AUFGABE 8. [Tactical lesson No. 8.] Problem: The halting of a breakthrough by highly mobile forces. Map: Grand maneuver map 1930, 1:100,000. Situation. Requirement: Orders issued and actions taken by the division commander.

11 May 1932

(40) TARNUNG FÜR HEER UND VOLK. [Camouflage for army and people.]

(41) ANGRIFF UND ABWEHR. [Attack and defense.] For centuries attack was synonymous with war. From the time of Frederick the Great through the Franco-Prussian War, defense was so exceptional that it had to be ordered. After that war, Moltke advocated the defense as a necessary preliminary to the attack in many instances. In the World War at the outset the defensive was in disrepute. The turning point of the war may in fact be found in 1914 on the West Front when the offensive was abandoned.

The breaking off of the battle of the Marne may not have been necessary. But the consequent impasse was not a transition to the defensive for its own sake, but a mere temporary measure which became permanent because there were no reserves. In the German Army the Moltke idea of the defensive was repudiated. Only the offensive was considered. There was, furthermore, no training in the defensive along the lines Moltke had laid down. There was no regard for the victories which had been won by other armies by a numerically inferior side employing the defensive as e.g., Kunersdorf, Hohenlinden, Caldiero, Austerlitz, Talavera, Busaco, Torres Vedras, Fuente de Honor, Albuera, San Cristóbal, Dresden, Belle Alliance, St. Lucia, Custozza 1848 and 1866, the three Plevna battles, and Sivin. From the Boer War's examples of the defensive, the lessons drawn were only those for the offensive. Consequently, on the West Front the German Army persisted in the attitude that there was but one form of combat, the offensive.

In the regulations of the German Army today, the defensive has practically been abandoned. It survives (F. u. G. 12) only in the provision that defense is justified only against an enemy greatly superior in numbers, and then only as a temporary measure to enable the attack to be renewed, or to permit an attack at another point, or at a later time. These regulations do not countenance the doctrine that "the high command has entire freedom to decide whether to attack, defend, delay, or withdraw."

The author believes that this viewpoint neglects a strategical method which has been employed successfully in the many battles of the past (see his examples above) that was used successfully on a large scale in the World War (Hindenburg—Ludendorff on the Eastern Front), and that has outstanding proponents in theory (Clausewitz, Moltke I).

(42) ERZIEHUNG DER AMERIKANISCHEN JUGEND ZUR WEHRHAFTIGKEIT. [Military training of the American youth.] III. Reserve officers training corps.

(43) DIE WEITERENTWICKLUNG DES INFANTERIEGEWEHRS. [The evolution of the rifle.] Oberst Fischer

(44) DER FERNE OSTEN UND DAS RUSSISCHE EMIGRANTENTUM. [The Far East and the Russian emigration.] General Noskoff

(45) TAKTISCHE AUFGABE 8. [Tactical lesson No. 8.] Problem: The halting of a breakthrough by highly mobile forces. Map: Grand maneuver map 1930, 1:100,000. Orders and actions taken.

18 May 1932

(46) LÖSUNG VOM GEGNER BEI HINHALTENDER VERTEIDIGUNG. [The withdrawal in delaying actions.] On the minutiae of this question there are many opinions. Instead of entering into these, an attempt to clarify the situation will be made.

The first question is: when shall the defender break off the combat? It is now understood that the troops of the unit involved need not be given the impression that they must decisively defeat the foe. This is a step in advance of the previous idea that the purpose to be achieved must be kept a secret (F. u. G. 414). The troops must know that they are to break off the fight when the time comes.

But this knowledge must not defeat the purpose to hold the position to the limit of their strength. Two examples of misguided orders follow: (1) "You will withdraw when the enemy reaches such and such a point" (e.g. 500 meters from your front line); (2) "You will only withdraw in the face of an overpowering enemy attack."

Such orders lead to disaster—they hold before the mind's eye not the mission to be achieved, but a contingency upon which that mission is to cease. Vacillation results from manifold interpretation thereof. The mission is accomplished only when the enemy is forced to bring up reinforcements and his supporting arms. Such orders create doubt in some units as to whether others have withdrawn. Such orders, if uniformly practiced, inform the enemy as to when withdrawals will occur.

The combat requirements are achieved by a very simple instruction, namely: "The position will be held until X hour when the unit will withdraw to the following position: . . ." That an hour can be determined in advance is possible due to the powers of the machine guns, if a favorable position has been selected. These, coupled with careful camouflage, and an artillery fire which delays the bringing up of enemy supporting weapons, will avoid a break-through. Then a withdrawal under cover of darkness is not difficult.

But if it becomes necessary to withdraw before dark, then this must be done under cover of an increased fire of all supporting weapons. This is the only solution. It is disastrous to initiate a withdrawal simply by the advanced elements "going back fighting." They merely become targets for enemy ma-

chine gun fire. The combat effectiveness of units engaged in the withdrawal must be substituted by that of the supporting weapons. Withdrawals must be effected piecemeal, and by the supporting fire of adjacent units. The units withdrawing must be relieved of responsibility, and not be called on to fight while withdrawing. The moment of withdrawal must not depend on what the enemy is accomplishing, but solely on the hour set for such withdrawal.

(47) EINSATZ UND KAMPFESWEISE DER MG.-KOMPANIE. [Employment and combat methods of the machine gun company.] An argument against the thesis expressed in "Militar-Wochenblatt" for 4 April 1932 that: "In future the light machine gun can take over the missions up to 1200 meter range which have been assigned to heavy machine guns."

(48) DIE GEPLANTE NEUORGANISATION. DER FINNISCHEN LANDSTREITKRÄFTE. [The projected reorganization of the Finnish land forces.]

(49) NEUREGELUNG DES LUFTVERKEHRS NACH DEM BALKAN UND NAHEN OSTEN. [Reorganization of air travel to the Balkans and the Near East.]

(50) TAKTISCHE AUFGABE 8. [Tactical lesson No. 8.] The halting of a break-through by highly mobile forces. Map: Grand maneuver map 1930, 1:100,000. Orders and actions taken.

25 May 1932

(51) VERSTÄNDIGUNG MIT FRANKREICH? [An understanding with France.]

(52) DIVISIONSFÜHRUNG UND BEFEHLSTECHNIK. [The command of a division and the technique of orders.] The modern division orders bear the stamp of the position warfare and the typewriter. The war of the future will show whether time and circumstances will permit of their present form. What is the cause of such long orders? Too much is ordered and too many units are addressed.

At the beginning of the war the division commander addressed his orders to the two infantry brigades, to perhaps a division reserve, the field artillery brigade, the engineers, the cavalry, and the signal detachment. Today he addresses them to 3 infantry regiments, leaving the infantry commander out of it; to an artillery detachment; a reconnaissance detachment; engineer battalion; air corps; and signal corps detachments. The recipients have increased by leaving the brigades out of it. A solution is to address only the infantry and artillery commanders.

Again, too much is ordered. The location of each signal station is designated. If the signal officer "knows his stuff" this should be his function. So it is with the other separate arms. The tendency is to preempt the functions of subordinates. By the present system the division commander of 1914 would have had 9 to 15 subordinates to address. Today he has the same number, although there are 3 battalions and 3 to 5 batteries less than there were. Combat power has increased, not numbers of units. The complications have arisen from leaving out the intermediate commanders. The division of today is not unwieldy; it is the order system which is unwieldy. This is all born of the World War, the office and the typewriter, in position warfare.

Motorcycles, trucks and improved signal facilities have made it possible to lead the small modern division in a mobile fashion. The mobility of the troops depends, however, on the leader. The cause of the unwieldiness of the division is not to be found in its size or strength, but in the weakness of leadership. This is true when it is in column or advancing on a broad front. But the system of separate reinforced regiments divided into echelon-groups makes a manifold complex which causes the difficulties of command.

Within the regiment things are no better. Orders are just as long. Its leader must address orders to 9 to 15 subordinates. But the division, at least, insures the full utilization and cooperation of the separate arms. It avoids splitting up the artillery. The regiment fails to do this. It makes command difficult, it lessens mobility and imperils the main effort, and especially endangers medical attention and supply. Thereby the regiment is more complicated than the division, and hence its orders are more complex.

There is a great need for simplification of the system of command.

(53) EINSATZ VON ABWEHRFLUGZEUGEN GEGEN LUFTANGRIFFE. [Air defense and attack.]

(54) DAS JAPANISCHE HEER. [The Japanese Army.]

(55) TAKTISCHE AUFGABE 8. [Tactical lesson No. 8.] The halting of a break-through by highly mobile forces. Map: Grand maneuver map 1930, 1:100,000. Discussion.

4 June 1932

(56) GEFECHTSBREITEN IM ANGRIFF. [The width of zones in the attack.] Rittmeister Crisolli

The author believes that the width for an infantry battalion should be increased from the present 400—800 meters to 600—1200 meters; and that for an infantry division from the present 3—4 kilometers to 4—5 kilometers. His argument is that the widths of zones of attack, as at present prescribed, do not enable all the weapons of a modern German division to be brought to bear. The organization of the German division is given.

(57) DAS GEEIGNETSTE GESCHÜTZ FÜR DIE REITENDE ARTILLERIE. [The most suitable gun for horse artillery.] Generalmajor v. Hederich

(58) PANZERZÜGE IN DER POLNISCHEN ARMEE. [Armored units in the Polish Army.]

(59) VERSTÄRKTE MILITÄRISCHE AUSBILDUNG DER FRANZÖSISCHEN JUGEND. [Increased military training for the French youth.]

11 June 1932

(60) MECHANISIERTE AUFKLÄRUNGSABTEILUNGEN IN DER OPERATIVEN UND TAKTISCHEN AUFKLÄRUNG. [Mechanized reconnaissance detachments in strategical and tactical reconnaissance.] Oberstlt. Faber du Faur

A consideration of the part taken in strategical reconnaissance and tactical reconnaissance (distant, close, and battle) by the air arm, cavalry and mechanized units.

The article is written in the condensed manner of training regulations and is elementary, but fundamental, in this field.

(61) HINHALTENDE KAMPFFÜHRUNG. [The conduct of delaying actions.]

(62) DIE EINHEITSGRUPPE. [Unified groups.]

(63) FORMALTAKTIK VON TAGBOMBERN. [Tactics of daylight bombers.] Hauptmann v. Ritter

(64) MANÖVER IN FREMDEN HEEREN 1932. [Maneuvers in foreign armies 1932.]

18 June 1932

(65) KAMPFWAGENABWEHRWAFFEN FÜR DIE VORDERE LINIE. [Antitank guns for the front lines.]

(66) GEFECHTSBREITEN IN DER VERTEIDIGUNG. [The width of sectors in the defense.] Rittmeister Crisolli

The author concludes that in a determined defense the sectors for the present German Army organization should be 2400 meters wide for a battalion, 10 kilometers for a division.

(67) NEUZEITLICHE TRUPPENGLIEDERUNG. [Modern troop organization.]

(68) NOCHMALS DAS GESCHÜTZ DER REITENDEN ARTILLERIE. [Again the gun for horse artillery.] Genlt. Marx

(69) TECHNISCHER RUNDBLICK. [Technical survey.] Oberst Blümner

(70) DIE REORGANISATION DER SPANISCHEN WEHRMACHT. [The reorganization of the Spanish Army.]

25 June 1932

(71) ANGRIFF UND ABWEHR. [Attack and defense.] (See abstract, page 39)

(72) WEHRPOLITISCHES VON DER KLEINEN ENTENTE. [Defensive policy of the Little Entente.]

(73) GENFER KOMÖDIE. [The comedy at Geneva.]

(74) KRADFAHRER ALS KAMPFTRUPPE. [Cyclists as combat troops.]

(75) EINSATZ UND KAMPFESWEISE DER MG.-KOMPANIE. [Employment and combat methods of the machine gun company.]

(76) FELDBEFESTIGUNG UND BRÜCKENBAU MIT BEHELFSGERÄT ALS DIENST ALLER WAFFEN. [Field fortification and bridge construction as an aid to all arms.]

(77) DIE JAPANISCHE ARTILLERIE. [The Japanese artillery.]

(78) AUS DER WERKSTATT DER TRUPPE: TRUPPENÜBUNGEN WÄHREND DES MARSCHES. [From the workshop of the troops: Unit exercises during the march.]

18—OUR ARMY

May 1932

(1) WITH THE THUNDERING 13TH. Pvt. Depew

(2) HISTORIC 9TH CAVALRY RIDES ON. Captain Shufelt

(3) OFFLEY'S 2ND CAVALRY IS PROUD

(4) THIS MAN'S ARMY

22—REVISTA MILITAR (Argentina)

May 1931

BY CAPTAIN W.F. SAFFORD

(1) OPERACIONES COMBINADAS. [Preparation for overseas expeditions.] (See abstract, page 66)

BY MAJOR M.B. NAVAS

January 1932

(2) ARTE NAVAL. [Naval art.] Capitán Casal P.S.

A lecture dealing with important naval operations during the World War.

(3) EL SERVICIO DE ARSENALES DE GUERRA EN LA ÉPOCA DE LA REVOLUCIÓN Y DE LA INDEPENDENCIA. [The service of supply during the War of Independence.] (II) Coronel Beverina J.

A continued article dealing with the manufacture of arms and ammunition in Argentina during the War of Independence.

(4) QUÉ TRAJE DEBE USARSE EN EL EJÉRCITO DURANTE LA GIMNASIA. [Uniform that should be worn during physical exercises.] (1) Lopez J.A.

Describes the clothing that should be worn by the soldier during the different seasons of the year while engaged in physical exercises.

(5) LAS NIEBLAS ARTIFICIALES. [Artificial mists.] Teniente Orona J.V.

Treats of smoke screens laid by aviation, artillery and chemical troops in war. Gives historical examples of the results of these smoke screens during the World War.

(6) DESDE MI PUESTO DE OBSERVACIÓN EN PARIS: LA DEFENSA ANTIAÉREA. [French antiaircraft defense.] (VI) Mayor Fantini Pertiné E.

A continued article dealing with the defense of cities by means of antiaircraft artillery and aviation.

(7) LA ARTILLERÍA EN LA DEFENSA. [Artillery in defense.] (I) Teniente Cuaranta J.C.

Describes classes of fires by artillery in defense of a position.

(8) LA PREPARACIÓN DEL ATAQUE POR LA ARTILLERÍA EN LA GUERRA DE POSICIÓN Y DE MOVIMIENTO. [Preparation for the attack by the artillery.] Generalmajor v.Cochenhausen

A translated article from the German dealing with preparatory fires by the artillery before an attack against a position. Shows by means of historical examples the results of these fires in many important operations during the World War.

(9) EJERCICIO TACTICO DE ARTILLERÍA 7,5 CM. [Tactical exercise of 75 mm artillery.] Mayor Ricard E.

A translation from the French regulations on the employment of the 75 mm gun.

(10) EL CANÓN AUTOMÁTICO DE 20 MILIMETROS MADSEN COMO ARMA DE ACOMPAÑAMIENTO DE LA INFANTERÍA. [The automatic 20 mm Madsen gun as an accompanying infantry weapon.] Coronel Halvor

A description of the 20 mm Madsen gun and its use as an infantry weapon.

February 1932

(11) EL SERVICIO DE ARSENALES DE GUERRA EN LA ÉPOCA DE LA REVOLUCIÓN Y DE LA INDEPENDENCIA. [The service of supply during the War of Independence.] (III) Coronel Beverina J.

A continued article dealing with the manufacture of arms and ammunition in Argentina during the War of Independence.

(12) NUESTRO PONTÓN DEL PORVENIR. [Our pontoon of the future.] Tenientecoronel Montes A.

A description of a new pontoon designed by the engineers of the Argentine Army.

(13) DESDE MI PUESTO DE OBSERVACIÓN EN PARIS: LA DEFENSA ANTIAÉREA. [French antiaircraft defense.] (VII) Mayor Fantini Pertiné E.

A continued article dealing with the defense of cities by means of antiaircraft artillery and aviation.

(14) DESCRIPCIÓN Y EMPLEO DEL SITÓGRAFO PARA ARTILLERÍA TERRESTRE. [Description and use of a graphic method for figuring artillery firing data.] Teniente Baisi A.A.

Treats of a graphic method which according to the writer, is very practical in figuring firing data for field artillery.

(15) LA ARTILLERÍA EN LA DEFENSA. [Artillery in defense.] (II) Teniente Cuaranta J.C.

A continued article describing classes of fire by artillery in defense of a position.

(16) QUÉ TRAJE DEBE USARSE EN EL EJÉRCITO DURANTE LA GIMNASIA. [Uniform that should be worn during physical exercises.] (II) Lopez J.A.

A continued article describing the clothes that should be worn by the soldier during the different seasons of the year while engaged in physical exercises.

(17) EL EJÉRCITO SERVIO DESPUÉS DE SU DERROTA DE 1915 HASTA SU RESTABLECIMIENTO EN EL FRENTE MACEDÓNICO. [The Servian Army after its defeat in 1915 to its recovery in the Macedonian front.] Coronel von Ditfurth

A short article on the reorganization of the Servian Army after its defeat of 1915 and its employment in the Macedonian front.

March 1932

(18) LOS CONTRAATAQUES EN LA GUERRA DE MOVIMIENTO. [Counterattacks in war of movement.] Mayor Best F.

Discusses the differences between general counterattacks and local counterattacks.

(19) PÓLVORAS Y EXPLOSIVOS. [Powder and explosives.] Teniente Barrera R.

Treats of the manufacture of powder and explosives and of their chemical composition.

(20) DESDE MI PUESTO DE OBSERVACIÓN EN PARIS: LA DEFENSA ANTIAÉREA EN LAS TROPAS. [French antiaircraft defense within the troops.] (VIII) Mayor Fantini Pertiné

A continued article dealing with the defense of troops by means of aviation and antiaircraft artillery.

(21) EL SERVICIO SANITARIO EN EL EJÉRCITO ALEMÁN (XIII CUERPO DE EJÉRCITO) DURANTE LA GUERRA MUNDIAL 1914-1918. [Sanitary service in the German Army during the World War, 1914-1918.] Barbieri P.

A translated article from the German about the sanitary service in the XIII Corps during the years 1914-1918. Describes the organization of sanitary service units attached to subordinate units of the corps.

(22) SORPRESAS DE FUEGO SOBRE BLANCOS FUGACES FAVORABLES. [Surprise fire upon fleeting favorable targets.] Oberleutnant Ponath

An article dealing with the fire of rifle and automatic weapons upon fleeting targets. Gives historical examples during the World War of the effect of this fire in many of the important battles.

(23) CONDUCCIÓN NOCTURNA.—GOLPES DE MANO. [Night operations. Hand to hand combat.] Capitán Vacca

A short article dealing with night raids and other minor operations during the night.

(24) INSTRUCCIÓN DE UNA BATERÍA EN EL SERVICIO NOCTURNO. [Training of a battery in night operations.] Teniente Ehlert

Describes training of a battery of light artillery in night firing.

23—REVUE D'HISTOIRE DE LA GUERRE MONDIALE (France)

January 1932

BY MAJOR C.A. WILLOUGHBY

(1) L'ART. 231 DU TRAITÉ DE VERSAILLES. SA GENÉSE ET SA SIGNIFICATION. [Art 231. of the Treaty of Versailles. Its genesis and significance.] Bloch & Renouvin

An analysis of the controversial Art. 231, which was designed to fix the "war-guilt." It is sufficiently recognized, by this time, that the war-guilt declaration, upon which the punitive provision of the Versailles Treaty rests almost exclusively, has become a problem that will affect the future of Europe. This article is an analysis of the French view-point. It traces the attitude of the contracting powers, through the stages of the Armistice and the Peace Conference. The author holds, in conclusion, "that Wilson, Lloyd George and Clemenceau believed firmly in the culpability of the former German Imperial Government; however, they had no intention to demand an acknowledgment of 'general responsibility' for the War. The Treaty was termed to produce an acknowledgment of 'specific responsibility for an act (i.e., the attacks of July-August 1914) regarded as wrong,' in order to establish a juridical point of departure, for the Peace Treaty."

(2) L'HISTOIRE DES ORIGINES DE LA GUERRE, DANS LES MANUELS ALLEMANDS. [The origin of the World War, in German school books.] Isaac

This is an interesting study of the widespread effect, of prejudiced historical teaching, upon immature minds, with specific reference to an alleged German practice to pervert historical accounts, in official school texts, to nationalistic purposes. The author examines systematically 8 important textbooks, employed in secondary schools, under the headings: Alsace-Lorraine 1870; the evolution of European polities 1905-1915 and the immediate origins, or the crisis of July 1914. The author appears to prove that these events are not represented in an impartial critical spirit, demanded by historical presentation, but are modified to excuse German political action. This attitude will affect the spirit of coming generations and represent a menace to the tranquillity of Europe.

(3) LA DOCUMENTATION DE GUERRE EN BELGIQUE DEPUIS 1919. [Bibliography of Belgian source material on the World War.] Heyse

The value of this magazine consists in its character of specialized research in the World War period. This article is one of particular merit, for future historians; it represents a brief critical essay on authorities and primary sources to be found in Belgian archives or public documents. The author confines his tabulation to major publications: official accounts; legislative reports; official bibliographies; private archives, and general histories.

April 1932

BY CAPTAIN W.F. SAFFORD

(4) LA CONFÉRENCE DE LA PAIX ET L'ACCÈS DE LA POLOGNE À LA MER. [The Peace Conference and the access of Poland to the sea.] Smogorzewski

Scarcely had the armistice been concluded when the divergent preoccupations of the allied governments began to appear. The United States was according to President Wilson, "the only disinterested people." One of the preoccupations of France was the restoration of Poland. History had so complicated the respective positions of the Polish and the Germans on the Baltic that it was impossible to make a decision without wronging someone. Access to the Baltic was vital to the life of the Polish nation. The Polish demands were quite moderate, considering what might have been claimed by them.

The author then gives, in some detail, the various conferences, debates, reports, etc., and, in particular, the influence of the American delegation, which resulted in the creation of the Polish corridor, and the free port of Dantzig.

The whole article is extracted from a volume which will appear very shortly.

(5) L'EFFONDREMENT MILITAIRE DE L'AUTRICHE-HONGRIE. [The military collapse of Austria-Hongary.] Major Moreigne

The news of the first German reverses on the Western Front induced the Emperor of Austria to attempt to have Wilhelm II join with him in suing for peace. Failing in this, and in spite of the promise of the Minister of Foreign Affairs to the contrary, Austria-Hungary, already foreseeing defeat, cried for peace. This plea was refused by the Allies, as they would not countenance any negotiations as long as fighting continued, nor until a just and solid peace would be assured.

This last was inspired largely by the emigration of the Czechs. Beginning in August

1917, Czecho-Slovak troops were organized under the French. Some months later the same was done in Italy.

Following the congress of "oppressed nations" in April 1918, a systematic campaign of propaganda was begun to break down the morale of the Austrian soldiers—Czechs, Slavs, Yugoslavs, Serbs, Croats and Slovenes, etc. Taking the hint, Emperor Charles IV issued a manifesto to make the dual monarchy a federation. This manifesto had been so doctored as to remove all force—but evil points remained. The small nations refused the proclamation, and Hungary considered the dual-monarchy dissolved. This manifesto was the last straw needed to break the morale of the army, composed as it was of so many diverse races. Two days later the first mutinies broke out (19 October 1918).

The armistice obtained by Bulgaria released Allied troops for use against Austria. While Austria-Hungary was forming a new defensive line the Poles and Ruthenes rebelled. At the same time the Hungarians insisted that their troops should be used only to defend Hungary. Mutiny followed. The government tried to appease the Hungarians by releasing them from the Italian Front. At this moment the Italian offensive of the Piave began (26-27 October). On 28 October the Czechs proclaimed their independence; on the 29th the Yugo-Slav state was constituted; and on the 30th the Hungarian Republic was proclaimed. In the army, soldiers of these and other nationalities mutinied. Even the troops of German origin were affected.

In order to save what was still possible, a general retreat to the frontiers of the empire was decided upon, but this rapidly became a route. The Austro-Hungarian army demobilized itself spontaneously on the field of battle.

Negotiations for an armistice were concluded on 3 November, and hostilities ceased 24 hours later.

The Empire of the Hapsburgs was an anachronism. It fell from within at the same time that its adversaries gave it the last blows from without.

(6) L'Amiral Koltchak et les Événements militaires de Sibérie (1918-1919). [Admiral Koltchak and the Siberian military events (1918-1919).] (I) General Filatieff (Note: The first two installments by General Filatieff, an eyewitness with the White Russians against the Bolsheviks)

Koltchak first came into prominence during the War in the defense of the Black Sea and of the Baltic. He was an idealist and a slave to duty in the service of Russia. In the anti-Bolshevik struggle he had a heavy burden imposed upon him which called for a varied experience in civil administration that he lacked.

In August 1917, following the decline of Kerensky's government, Siberia proclaimed itself independent. By the coup d'etat of November 1917, the Bolsheviks overthrew this government. The uprising of the Czechs, 18 May 1918, was the impulse needed to cause the formation of the volunteer National Army. This army grew and overthrew the Bolshevik power between the Volga and Lake Baikal, and, on 7 August 1918, the capital of western Siberia, Omsk, fell into the hands of the Whites. At this time there were 19 separate governments in Siberia. These governments decided to unite. This was done, and a Directorate of Five was vested with supreme power.

Koltchak was named Minister of War by the Directorate. The new ministries functioned with difficulty. By the Coup d'Etat of 18 November 1918, Koltchak was named Dictator, in his absence, and after once refusing the office. Immediately new difficulties were encountered. However it was not the socialist party that caused the most trouble, but Semenoff, ataman of the Transbaikal Cossacks.

The latter bore an old grudge against Koltchak, and not only refused to recognize him, but also cut the telegraph lines between Omsk and the Orient, and began to sequester food destined for Omsk. However, the ataman Doutoff recalled him to his duty to the country and he submitted to Koltchak.

Ko tchak then formed his cabinet, but being inexperienced himself in civil administration, selected ministers no wiser than himself.

The Siberian Army was large in numbers but lacking in arms, ammunition and equipment. The Bolsheviks were better armed and equipped, but inferior in numbers. Both sides were really hastily formed bodies of militia, with all the defects of that system.

The impulsive and impetuous nature of Koltchak and the general desire to beat the communists quickly led to the offensive being undertaken. Of all the plans of action open Koltchak chose the most hazardous—one that only an experienced general with seasoned troops might attempt. In the spring of 1919 the situation of the Bolsheviks was such that only a miracle could save them. The absurd strategic plan of Koltchak was this miracle.

Although the Siberian Army had few experienced senior officers, Koltchak made no use of them but selected Lebedeff as commander, for reasons known only to himself. This inexperienced babbler, "illiterate" in the art of war, dug the grave for Koltchak and all Russia. The army became top-heavy with rank, money was wasted, command was divided and confided to small units—in fact it was not in any way an army worthy of the name—it was chaos. All the revolts and uprisings in Siberia during that period were mostly the direct consequence of the intemperate abuses of the commanders of Koltchak's army.

Another element which entered into the Siberian events was the Czech question. This in itself is an interesting incident but for this review space does not permit a full account. By the blundering stupidity of the Russians the aid of these 50,000 trained soldiers was lost.

While everything predicted Koltchak's success at the beginning of 1918, the end of the same year was marked by a catastrophe, due to the incompetence of the leader , including Koltchak.

24—REVUE MILITAIRE FRANCAISE (France)

By Major C.A. Willoughby

March 1932

(1) La recherche de la décision. [The quest for decision.] (VII) Général Faugeron

This is the final installment of the series, previously published in this "Revue." In the chapter on "Conclusion," the author holds that operations, since Aug. 1914, have a different character from those of previous wars. Until then, in 1870 and even in Russo-Japanese Wars, the strategic maneuver was traceable in a series of preparatory marches or movements, designed to concentrate the mass of troops for a blow of finality, like

Marengo, Austerlitz, Sadowa. Sometimes this conception was frustrated at the last moment as at Vilna, or in 1813 after Pleschwitz; sometimes the tactical effort became a half-success as at Bautzen, or failed entirely as at Leipzig or Waterloo.

The character of 1914 appears different. The armies are continuously in contact throughout the length of the frontiers. Strategic conceptions give way to the demands of tactics. The development of the Battle of Frontiers, in its entirety, that gigantic "maneuver of the flank," was in reality an engagement of leading elements only, each tending to envelop, to avoid a frontal engagement, until the coast stopped both adversaries; and then the real battle may be said to have begun, and it became a purely frontal effort—that most difficult of tactical operations, and too large a task for both opponents. The result was that both settled down to a war of attrition. The "battle of decision" had become a mere historical recollection. In such a situation, the availability of reserves became all important. An attack becomes decisive only when the enemy is deprived of reserves. It is the distinctive merit of Marshal Foch to have recognized this crucial moment. His insistence on the element of "surprise" as indispensable to decisive victory, is well known. And yet, this is as old as history. 280 B.C. the simple appearance of the elephants of Pyrrhus was sufficient to surprise and defeat the Romans at Heraclea. In 1346, the first cannons confused the Knights of Philip the Bold and gave victory to Edward III, at Crecy. The fire arms of Cortez paralyzed the Aztecs.

The author concludes by citing a series of historical incidents, in which the strategic situation resembled that of Foch in the spring and summer of 1918, viz.: The operations on the Elbe in 1813 and the specific instructions of Napoleon to Prince Eugene—Austerlitz (1805) and the defeat of Buxhoeven, Rossbach (1756), the enveloping maneuver at St. Privat (1870).

(2) LES FRONTS DE COMBAT. [Frontages and zones of action.] (I) Général Brossé. (See abstract, page 56)

(3) COMPREHENDRE. [Understanding.] (II) Capitaine Carrias

A continuation of Capt. Carrais' interesting study of the campaign of Waterloo; the text is provided with excellent sketch maps. The article is designed to stress evaluation of intelligence, in a historical example: Did Grouchy understand the situation? Did Napoleon grasp the significance of the Prussian maneuver?

(4) LA GRANDE GUERRE SOUS L'ÉQUATEUR. [The war under the equator. Lessons from the campaign in Cameroun.] (I) Colonel Charbonneau

The operations that led to the conquest of the former German colony of Cameroun, contain typical examples of colonial and guerrilla warfare, under severe climatic conditions and over most difficult terrain; from a tactical viewpoint, these operations were even more exacting, since casualties averaged 30%.

The strategic objective of the expedition was the German stronghold of Yaoundé. The point of debarkation of the Allied forces, however, was the region of Douala, a vast distance away.

Seven columns were started in a concentric march on Yaoundé; their composition and operations contain definite lessons for this type of warfare.

Each column was composed of a main body with flank detachments; the main body generally was composed of 800-900 men, 3-4 companies of light cannons or machine guns, and supply train.

Considering that the terrain obliged a formation, in single file, the extent of the column was considerable. The advance guard followed the usual composition, point, reserve, etc.; distances between elements are reduced to 100 to 200 m. Artillery, if present, is with the rear elements and covered by infantry. A small rear guard closes the column. In case of attack, the column is prepared to face in any direction.

This formation was modified in varying terrain; in the open "savannah" distances are increased.

Bivouacs are invariably arranged for defense. A field of fire is cleared; abatis or other obstacles provided for. The baggage is arranged for additional cover; the portees are herded in a central enclosure, under guards.

The tactical operations were of a fugitive, indecisive character. The Germans, incapable of replacing the white cadres, generally avoided close combat. Delaying actions and raids against the Allied lines of communication were the rule. Colonel Morrison was able to advance 400 km. in less than 3 months; he wrote: "The enemy is hesitant; in that situation one cannot be too bold." Kitchener said sometning of the sort on arrival in the Transvaal: "I believe I understand the tactics of the Boers; with people who do not attack, one can risk anything."

As regards the branches, infantry plays the preponderant role. Artillery, limited in the beginning, is finally represented by 40 pieces of different calibers. Heavy types were out of the question; in East Africa, where an attempt was made to employ a 105, it took 300 porters to transport the piece, and an even larger number for ammunition. When infantry is spoken of, native infantry is meant. White personnel was found impracticable. The British arrived at the same conclusion. Smuts declared that as soon as he employed natives, he was able to cut down baggage by 60%. The Portuguese clung to white troops and lost 2/3 of their effective strength.

The final distribution of white personnel (cadres), among native troops was as follows:

	FRENCH	BRITISH	BELGIAN
Officers	2%	6%	2%
Noncommissioned officers	6%	3%	2%

Obviously, this gives a considerable importance to native noncommissioned officers; they appeared to have stood the test.

Supply "services," as such, were not available, initially, but had to be organized and improvised, within each echelon.

Information was transmitted by native runners. The use of railroads, of course, depended on the existing and very limited lines. Motor transportation, of course, was negligible; there was, however, a very general and effective use of boats.

As a general remark, "porters" and carriers had to be used for the trains, organized in "convoys." The performance of the "porters" was variable. Example: A convoy left Banghi Sept. 5th, 330 porters, 20 men as escort. Speed was estimated at 3 km. per hour, and the daily march at 20 km. In spite of favorable conditions, the convoy covered only 160 kms. in 10 days; 50 porters ran away

and 30 had to be relieved on account of sickness.

A distinction must be made between unit trains (Field) and Q.M. trains, as represented by groups of porters. Combat train followed each company closely; for a company of 160 men and 12 white cadres, 51 porters were required; they carried a day of fire and 2 days' supplies. Regimental trains carried 6 days' supplies, for the white cadres (4 days for the natives) and required 36 porters. The Q.M. train (administrative convoy), consisted of 2 echelons, to replenish regimental trains or to establish small depots along the route of march. Eventually, the porters were organized into stable units, recruited locally, by dividing the lines of communication into certain zones.

At the end of the campaign, the French employed 4300 porters. This is modest, compared, to the situation on the German side; at the end of hostilities, the Germans took 20 to 30,000 porters to serve a force of 500 white and 7000 native soldiers. This amounted to 7-9 porters for each white man; this proportion was observed by the British and Belgians while the French only used 3 porters for 2 whites. (To be continued)

(5) LES GRANDES MANOEUVRES ALLEMANDES. [The great German maneuvers, 1930.] Capitaine de Lassus

The traditional autumn maneuvers, interrupted in 1929, were again staged in 1930. They were called "Cadre Maneuvers" and fall practically into the category of Command Post Exercises. Of 10 divisions composing the present German Army, only 2 were employed; the rest were represented by their staffs, the signal and technical services and all command echelons, down to the battalion.

(For further details, terrain, situations, etc., see original article, and situation map, on page 427.)

The general situation was framed to give this maneuver the character of open warfare; daily situations were not allowed to become stabilized. Changes of direction, or front, of large units were frequent, for instance, the movements of the 5th and 6th Divisions (Red) during night 15-16 Sept., which faced that unit north from a previous orientation to the East.

The high quality of the troops was generally remarked on; as an incident of march discipline and endurance, a regiment of the 5th Div., covered 160 kms. in 4 days and was engaged the following day, without march casualties. The 3d Cav. Div. covered 110 kms., from AM Sept. 15 to noon Sept. 16 and engaged in attack maneuvers the same afternoon.

The rapidity in changes of situation taxed the elasticity of staff arrangements to the utmost, but was regarded as successfully met. The German High Command had been successful in furnishing staffs an opportunity to conduct large units.

April 1932

(6) L'ÉLÉMENT TERRAIN EN STRATÉGIE. [The terrain factor in strategy.] (I) Général Duffour (See abstract, page 75)

(7) LES FRONTS DE COMBAT. [Frontages and zones of action.] (II) Général Brossé (See abstract, page 56)

(8) COMPRENDRE. [Understanding.] (III) Capitaine Carrias

Continuation of historical study on "Campaign of Waterloo." The article is designed to show the effect of faulty intelligence and what might have happened if Grouchy had had a modern G-2 Section.

(9) LA GRANDE GUERRE SOUS L'ÉQUATEUR. [The war under the equator.] (II) Colonel Charbonneau

The campaign in Cameroon will remain interesting as a striking example of colonial warfare, carried on by "native" contingents under white commanders. The only other historical instance of the kind is to be found in the 18th century, in our struggle in Canada and India. The Congress of Berlin (1878) declared against the extension of war to colonies. This provisional restraint was promptly broken by all combatants. The resistance of the Germans must be regarded as extraordinary; cut off from all replacements, isolated, they waged war continuously; v.Lettow-Vorbeck, in East Africa did not surrender until Berlin gave the order, after the Armistice. The secret of this success is found in their mobility, their maneuver in delaying action, in sharp, local counterattacks, in raids against the Allied L. of C. An important principle, which they recognized early, was that they did not regard a locality, or town, as indispensable. v.Lettow-Vorbech actually abandoned his colony, to make a raid on Portuguese Mozambique and capture supplies and even native recruits. They cut down the percentage of white troops early and definitely; subsistence on the country was the invariable rule. On the part of the Allies, the combination of 3 nationalities did not make for unity of action; there was a rapid succession of commanders.

25—MILITARWISSENSCHAFTLICHE MITTEILUNGEN (Germany)

BY MAJOR A. VOLLMER

May-June 1932

(1) DAS WERDEN DES TIROLER STANDSCHÜTZENKORPS. [The evolution of the Tirolese Rifle Corps.] Oberst Eichthal

(2) ARTILLERISTISCHE BETRACHTUNGEN ZUR ÖSTERREICHISCH-UNGARISCHEN JUNIOFFENSIVE 1918 . . . [Artillery notes on the Austro-Hungarian offensive in June 1918 . . .] Ridel (See translation, page 31)

(3) DIE ORGANISATION DER ÖSTERREICHISCH-UNGARISCHEN WEHRMACHT IN IHREN LETZTEN FRIEDENSJAHREN. [The organization of the Austro-Hungarian national defense in the last years of peace.] Oberst Dragoni

(4) DIE WEHRMACHT DER TSCHECHOSLOWAKISCHEN REPUBLIC. [The national defense of the Czechoslovakian Republic.] Oberst Wittich

(5) DER KAMPF UM DIE MANDSCHUREI. [The battle for Manchuria.] General Wiesinger

(6) DIE EINLEITUNGSKÄMPFE. [Preliminary battles.] Oberstlt. Rendulic

(7) DER FILM ALS MILITÄRISCHES LEHRMITTEL. [Films as military instructional material.] Major Franck

(8) ZWEI NEUE ZWEIROHRIGE SPREIZLAFETTENINFANTERIE-GESCHÜTZE. [Two new infantry guns.] Generalstabsmajor Daniker

($7\frac{1}{2}$ cm infantry howitzer interchangeable with 4.7 cm infantry gun; and $7\frac{1}{2}$ cm infantry gun interchangeable with 4.7 cm gun.)

(9) GESTEINSBOHRMASCHINEN UND PRESSLUFTWERKZEUGE BEI DEN ÖST-UNG. ARMEEN IN WELTKRIEGE. [Stone drills and pneumatic machines in the Austro-Hungarian Army during the World War.] General Schneider

(10) GELÄNDEGÄNGIGE KRAFTFAHRZEUGE. [Cross-country motor vehicles.] Oberstlt. Tippmann

(11) DER MONTE GRAPPA AM 16. NOVEMBER 1917. [Monte Grappa, 16 November 1917.]

(12) ITALIANS KÄMPFE IN ALBANIEN 1914-1918. [Italy's battles in Albania 1914-1918.] Obstlt. Ravenni
(13) DIE ROTE ARMEE. [The Red Army.] General Niessel

26—WISSEN UND WEHR (Germany)

BY MAJOR A. VOLLMER

March 1932

(1) ARMEE UND STAATSUMWÄLZUNGEN IN FRANKREICH. [The Army and "coups d'etat" in France.] Oberst v.Rabenau
(2) DIE DEUTSCHE FUNKAUFKLÄRUNG IN DER SCHLACHT BEI TANNENBERG. [The German radio interception in the Battle of Tannenberg.] Oberleutnant Randewig (See abstract, page 60)
(3) VON LÜTTICH BIS LA FÈRE. UBER DIE EINWIRKUNG VON FESTUNGEN AUF OPERATIONEN. [From Liege to La Fère. The influence of fortresses on the operations.] Hauptmann Heim

April 1932

(4) ARMEE UND STAATSUMWÄLZUNGEN IN FRANKREICH. [Political changes in France: From the peoples king to the retirement of Mac Mahon (1830-1878).] Oberst v.Rabenau
(5) DAS WIRKEN DER HOCHSEEFLOTTE IM WELTKRIEGE. [The operations of the high seas fleet in the World War.] Kapitän v.Waldeyer-Hartz
(6) DER AUFMARSCH DER REITEREI. [Cavalry concentrations.] Leppa (See translation, page 41)
(7) BEURTEILUNG DER OPERATIVEN GRUNDLAGEN DES BALKANFELDZUGES 1915. [A consideration of the bases of operations of the Balkan campaign of 1915.] Oberst-leutnant Mühlhofer

June 1932

(8) DIE EROBERUNG DER RUMÄNISCHEN DOUNAUFESTUNG TUTRAKAN. [The conquest of the Rumanian Danube position Tutrakan.] Ortlepp
(9) DIE GROSZEN FRANZÖSISCHEN MANÖVER IN DER CHAMPAGNE IM SEPTEMBER 1931. [The great French maneuvers in Champagne, September 1931.]
(10) DIE RUSSISCHE KAVALLERIE. [The Russian cavalry.]
(11) SCHWEIZERISCHE GEDANKEN ÜBER LANDESVERTEIDIGUNG. [Swiss ideas on national defense.]
(12) GENFER ABKOMMEN VOM 27. JULI 1929. [The Geneva agreement of 27 July 1929.]

27—INTELLIGENCE SUMMARY (War Department)

8 April 1932

(1) ITALY: A FEW RESULTS OF THE GRAND AERIAL MANEUVERS OF 1931. Brigade General Pricolo

22 April 1932

(2) CHINA: MANCHURIAN CONDITIONS CONFRONTING LEAGUE OF NATIONS INVESTIGATING COMMISSION

6 May 1932

(3) BRITISH EMPIRE: GREAT BRITAIN AND THE WAR DEBTS
(4) SOVIET RUSSIA: RESULTS AND PROSPECTS OF ECONOMIC PLANNING
(5) BALKANS AND NEAR EAST: TURCO-GREEK AND TURCO-RUSSIAN COMMITMENTS

3 June 1932

(6) FAR EAST: SINO-JAPANESE CLASH AT SHANGHAI

31—INFANTRY JOURNAL

March-April 1932

(1) THE 30TH INFANTRY IN THE HAWAIIAN MANEUVERS. Captain Mann
(2) FLAG CONTROL OFFICER. Captain Yeuell
(3) THE TREND OF ORGANIZATION AND EQUIPMENT OF CAVALRY IN THE PRINCIPAL WORLD POWERS AND ITS PROBABLE ROLE IN WARS OF THE NEAR FUTURE. Major General Henry
(4) MILITARY HISTORY MAP PROBLEM
(5) THE GUEST OF A CHINESE WAR LORD. Captain Barrett
(6) NEW SYSTEM OF SERVING MEALS AT INFANTRY SCHOOL. Lieutenant Yarborough
(7) THE VERDUN FORTS. DeWeerd
(8) ANCIENT FIREARMS. Pratt
(9) THE DEFENSE OF MAUSER RIDGE. Lieut. Colonel Lull
(10) CARPENTRY ON COMMUTATION. Lieutenant Newman
(11) LEADS IN INFANTRY ANTIAIRCRAFT FIRING. Lieutenant Greene
(12) THE MISSION OF MILITARY ATTACHÉS. Lieut. Colonel Guerrero
(13) THE PROTECTION OF MOTORIZED UNITS AGAINST AIRPLANES
(14) NOTES FROM THE CHIEF OF INFANTRY
(15) MOTORS VERSUS ANIMALS ON MANEUVER
(16) NATIONAL GUARD NOTES
(17) RESERVE NOTES

May-June 1932

(18) THE THIRTY-FIRST INFANTRY IN SHANGHAI. Captain Cahill
(19) A NEUTRAL OBSERVER AT SHANGHAI
(20) THE INTERNATIONAL SETTLEMENT. Captain Grogan
(21) THE NEW LIGHT TANK, T1E4

32—REVUE D'INFANTERIE (France)

BY MAJOR R.C. SMITH

March 1932

(1) LA PRISE DE CONTACT.—LES AVANT-GARDES. [Gaining contact.—Advance guards.] Colonel Touchon

Points out the possibilities of a defense combining long range machine gun fire with final protective lines. The attacker must determine two lines of contact: (1) The beaten zones of enemy fire; (2) The actual line held and the physical location of the personnel and weapons. Development of main bodies must frequently take place at night. A division is really engaged when the first echelon of its infantry of three or four battalions is in the fire fight, supported by all the artillery.

(2) ROSSIGNOL-SAINT VINCENT (22 AOÛT 1914). [Rossignol-St. Vincent, 22 August 1914.] (I) Colonel Grasset

Colonel Grasset has already given us many valuable studies of tactical operations. He has a new book that is about to be published that promises to be the best of all. This article has extracts from this new volume. It studies the operations of the 3d Colonial Division on 22 August 1914. This division was on the right of the reenforced brigade whose action at Neufchateau has already been studied.

(3) CHARS D'ASSAUT. [Tanks.] Corlieu-Jouve

Extracts from a new book by a tank officer, giving many vivid incidents of tank combat.

(4) UNE SOLUTION DU THEME TACTIQUE DONNÉ AU CONCOURS D'ADMISSION À L'ECOLE SUPÉRIEURE DE GUERRE. [Solution of a tactical problem given in the competition for admission to the Ecole de Guerre.] Commandant X . . .

Situation of a division acting as part of a corps in a meeting engagement.

(5) LES INFANTERIES ÉTRANGÈRES—V—L'INFANTERIE DES ÉTATS-UNIS. [Foreign infantry. V. American infantry.] (I) Capitaine Cammas

One of a series of studies of the infantry components of foreign armies. This is a critical estimate of the organization, strength and combat value of U.S. troops. The author rates the personnel, both enlisted and commissioned, as of high quality.

April 1932

(6) ESSAIS DE PÉDAGOGIE.—LE SOLDAT ET L'ÉTUDE. [Studies in pedagogy. Teaching the soldier.] Commandant Laffargue

The author believes that enlisted men may be taught to good advantage by requiring them to write reports on errors they make during maneuver and other exercises.

(7) ETUDE SUR L'ORGANISATION, L'INSTALLATION ET L'ACTION DE LA BASE DE FEUX DANS LE COMBAT OFFENSIF DU BATAILLON. [A study on the organization, establishment and operation of the fire support (base de feux) for a battalion in offensive combat.] Chef de bataillon Cazeilles, & capitaine Chavatte

A detailed explanation of French ideas on the use of infantry supporting weapons. The use of indirect fire by machine guns is considered the most desirable. The authors' experience with native troops leads them to believe that it is entirely practicable in most cases.

(8) LIAISON INFANTERIE-ARTILLERIE. [Infantry-artillery liaison.] Chef d'escadron d'artillerie Monnot

The author believes that the maximum number of infantrymen should be trained in adjusting artillery fire so that they may be able to do it in emergencies when no artillery observer is available.

(9) ROSSIGNOL-SAINT VINCENT (22 AOÛT 1914). [Rossignol-St. Vincent, 22 August 1914.] (II) Colonel Grasset

More extracts from Colonel Grasset's new book.

(10) LES INFANTERIES ÉTRANGÈRES.—L'INFANTERIE DES ÉTATS-UNIS. [Foreign infantry. American infantry.] (II) Capitaine Cammas

A continuation of the article begun in the previous issue. This installment is a critical estimate of American tactical doctrine. His article concludes "no doubt but that the American infantry (in case of mobilization) will be worthy of that that came to fight and win with us on the battle fields of France."

May 1932

BY MAJOR V. MEYER

(11) COMBATS DU "TEMPS DE PAIX." [Engagements during "peace times."] Commandant de Gaulle

This article describes certain campaigns in Syria since 1920. During these twelve years, two-thirds of France's regular army, and a good proportion of the conscripts have campaigned in foreign lands. The total dead has mounted to 35,000, a thousand of which have been officers. These campaigns receive but scanty recognition and bring but little honor to the participants, yet on them depend the safety and the honor of France. As the author aptly quotes from Kipling: "It doesn't make any difference to a dead soldier whether he has been killed in a frontier skirmish or in the great battle of Waterloo."

Unfortunately the article is not illustrated by any maps or sketches.

I.

AIN-TAB

1920-1921

Just after the World War, a difficult campaign was undertaken in Cilicia against natives who were furnished by the Turks with the most modern equipment. The French did much blind fighting, ran up against continual ambushes and had insufficient forces—only two divisions at the most, and these much below strength and lacking in material.

As to communications, there were numerous trails, and a railway 480 kilometers long between the sea and the Euphrates. The vulnerable points on this railway were always being cut, especially where the railway ran through the mountain passes. One of the tasks of the French was to guard this railway over its entire length.

Ain-Tab was on a high plateau and was called the "Kemalist Verdun." It was besieged for more than a year by the French before it capitulated.

II.

KAFER

20 July 1925

This is an account of the massacre of a company of 166 rifles by the Druses.

III.

RACHAYA

19-24 November 1925

This is the story of an attack by the Druses on a small French force and of a relief by French columns in the very nick of time. The French defenders of this citadel consisted of 7 officers and 260 men of the Foreign Legion and Spahis. When the relief took place the defenders had only 200 cartridges left.

IV.

AERE

April 1926

A small French column, accompanying a large and vulnerable convoy, was marching on the road in a dense fog with security forces consisting of an advance, flank and rear guard. It was ambuscaded by the Druses who charged with their accustomed ferocity and got between the flank guard and the rear guard. Hostile fire was directed against the convoy and very nearly caused a rout. However, the commander stood firm and checked the panic.

The remarkable incident about this fight is the action of the battalion in the advance guard. It was not attacked by the enemy nor were there any hostile forces to its front. The advance-guard commander received no orders whatever from the column commander. However, quickly sensing what was happening to the column in rear, the commander turned about his advance-guard, struck the Druses in flank and saved the day.

(12) LE 61E RÉGIMENT D'INFANTERIE A LA BATAILLE DE LORRAINE (AOÛT 1914). [The 61st Infantry Regiment in the battle of Lorraine (August 1914).] Lieutenant-colonel Guigues

This is the first of a series of accounts dealing with the initial meeting engagements of the 61st Infantry Regiment (XV Corps, 30th Division) in Lorraine from the 15th to the 20th August, 1914. The unit was part of the Second French Army which was opposed to the Sixth German Army.

The author's purpose in writing the narrative is to illustrate the conduct of officers and men under the baptism of fire, to show how various conditions of weather, fatigue, lack of enemy information, lack of reconnaissance and other factors affect the morale of the troops. It does not aim to dissect or to analyze the tactics of the meeting engagement except insofar as it affects the physical, mental and moral factors.

There is an excellent map accompanying the text.

Two extracts are worth quoting:

"The calm was impressive. No activity or firing was evident from the enemy's side."

"In the ranks, the officers had the impression that, if an advance was made, the battle would be on, because the activity of the enemy projectors during the night seemed to confirm the information already given by the civilians, that the enemy was strongly intrenched before Benestroff (village). In view of this, the majority of the officers gave these last precautions to their men:

To follow the leaders blindly;
Not to fire without orders;
Not to pile up on one another;
To keep looking to the front, never to the rear;
To stay at all cost at the places indicated;
Never to fall back without orders;
To have confidence."

In these solemn minutes, the real leader is the one whose staunchness of soul is superior to the fear of danger, who knows how to maintain such coolness and sang-froid as to estimate incidents of the fighting with all freedom of spirit and to take necessary measures with calmness and authority. This is the real leader, one who will definitely impose his will upon the men, who will always be followed. On the other hand, the undecided ones—and there are some of this kind—and the excited or timorous ones will surely be deserted in short order when danger appears.

(13) LA LIAISON INFANTERIE-ARTILLERIE ET LE DÉTACHEMENT D'OBSERVATION DU GROUPE D'ARTILLERIE. [Infantry-artillery liaison and the observation detachment of the artillery battalion.] Chef d'escadron Joguet (See abstract, page 62)

(14) LES OPÉRATIONS AU TADLA EN 1930. [The Tadla operations in 1930.] The introduction is worth quoting:

"The following pages, written without any pretension, will have attained their purpose if they succeed in interesting the young officers in Moroccan affairs. To those who will be led to Africa by their taste for adventure and for roaming afoot or on horseback in the wide open spaces, these pages will be an initiation and give them a general aspect of the situation in this country and of military life in Morocco. The true soldier must be a man of action. This Moroccan life, full of activity, of doing things, will tempt those who know how to set the moral glory of a job to be done and the love of a military career above the artificial ease and comfort of the metropolis."

The author then explains the situation in this section of Morocco as follows:

"The Tadla plain, watered by the Oum-Er-Rebia, must naturally be attractive to colonisation since it is very fertile, and can be made still more so by irrigation projects which have been planned and even begun. Its exploration in the future will certainly be a source of riches and revenue for the Protectorate. But, in order that the colonists may work peacefully, it is essential that security for them must be established in the plains. There must not be conditions such as existed in 1927 and 1928 when dissenting hordes came to carry away or to attack the European colonizers, and to harass the labors of the subject tribes. In 1929, there was still no positive security there. Hence the Tadla problem consisted in establishing or effecting complete security to all the plains watered by the Oum-Er-Rebia."

The operations described in this article lasted from the beginning of the concentration of the forces on 1st June until the 29th of September. As a result of the campaign, the French cleared a large terrain "pocket" over 30 kilometers in depth, and reduced their lines of communication from the railhead to the town of Arkala by some 25 miles. (Prior to the campaign they had been forced to truck a distance of 100 miles over a circuitous route from the railhead to Arkala.)

Surprise was the most important factor influencing the success of this campaign, and it was fully attained not only in the concentration but in the advance of the force to the outlying French posts where the jump-off occurred.

Native troops and elements of the Foreign Legion made up this force which consisted of 8 infantry battalions, 9 light batteries, a small amount of cavalry, aviation and engineers. It was termed a Mobile Group, and was subdivided into four groupments.

There were many difficulties of terrain to be overcome such as numerous fords, and paths up mountains that in some cases were too steep to be negotiated even by pack mules. Roads had to be built and maintained behind the advancing troops.

As each terrain objective was gained, the troops dug in and established the typical small walled-in posts. These little forts were then razed and the materials used on forward positions as the advance progressed.

(15) NOTE SUCCINCTE SUR LA NOUVELLE ORGANISATION DES PETITES UNITÉS DANS L'INFANTERIE ALLEMANDE. [Brief notes on the new organization of small units of the German infantry.] Capitaine de Senneville

The organization of the section of an infantry company is given in detail.

The author states:

"The ruling conception across the Rhine of infantry combat remains the same as formerly: the agencies of fire action and of shock action remain differentiated . . . The combination of fire and movement, which was formerly the job of the Chief of Section, an officer, henceforth passes to the group (there are two to three groups in a section), and the group becomes the living and active element of combat. The rôle of its leader is singularly magnified . . . Another result of this new organization, serious it is, is the marked increase of infantry fire power. Each company now has 9 machine guns instead of 6; or 27 per battalion and 81 per regiment."

33—ROYAL TANK CORPS JOURNAL (Great Britain)

April 1932

(1) MOTOR RAID ON ZYTOMIERZ CARRIED OUT BY INFANTRY. Captain Hinterhoff, Polish Army

(2) AN EXPERIMENTAL FOUR-TRACK TANK. Lieut.-Colonel Martel

(3) WAR OFFICE EXPERIMENTAL CONVOY, 1932

(4) THE AUSTRALIAN TANK CORPS

(5) 1917—1932

(6) History of the 13th Tank Battalion. (I) Major Maurice

May 1932

(7) Fiat tank: Type 3000 B. Hacker
(8) Tank battle practices (Egypt), 1932
(9) Notes on commanding a section of armoured cars in India. Lieut. Winberg
(10) History of the 13th Tank Battalion. (II) Major Maurice

June 1932

(11) Tank suspension systems. Lieutenant Icks
(12) History of the 13th Tank Battalion. (III) Major Maurice
(13) Reminiscences of salvage work. Captain Butler

34—TANK NOTES

May 1932

(1) Infantry—Tank cooperation
(2) Modern British light tanks
(3) Thickness of armor plate for future infantry tanks from the tactical viewpoint
(4) Camouflage and concealment of tanks
(5) Suggested lines of study of accompanying artillery for leading tanks
(6) Improvision of cross country vehicles
(7) Tank exercises, the British Army
(8) Tanks equipped with voice radio
(9) Engines for fighting tanks

35—CAVALRY JOURNAL

March-April 1932

(1) The trend of organization and equipment of cavalry in the principal world powers and its probable rôle in wars of the near future. Major General Henry
(2) The cavalry. Major General Brown
(3) Medical Department in the 1st Cavalry Division maneuvers. Lieut. Colonel King
(4) First reconnaissance regiment. Major Stackpole
(5) Notes from the Chief of Cavalry

May-June 1932

(6) Rapid forced marches by cavalry. Lieut. Colonel Scott
(7) The use of chemical mortars in cavalry operations. Lieutenant Grener
(8) Why is cavalry still necessary? Lieut. General Brandt, German Army
(9) Reflections on the tactical rôle of the cavalry of the large infantry units
(10) The Diesel engine must come to the Army. Lieutenant Withers

35a—CAVALRY SCHOOL MAILING LIST

15 January 1932

(1) Chief of Staff sets forth general principles to govern the extension of mechanization and motorization throughout the Army
(2) Report of forced march made at The Cavalry School by a provisional squadron of cavalry on April 24-25th
(3) The Cavalry School maneuvers—1931
(4) The trend of Field Artillery
(5) The present status of infantry equipment development
(6) The last five hundred yards
(7) "Clipped wings"
(8) The rôle of modern mobile protective forces
(9) The use of wire mesh for road surfacing
(10) Outline of the use of cavalry in the World War

15 March 1932

(11) Cavalry marches—Conference
(12) Experience of a mechanized cavalryman
(13) The effect of mechanization upon cavalry
(14) General trend of European thought on mechanization
(15) A typical fight in open warfare
(16) The tactics of Bush Warfare
(17) Engineers in cavalry maneuvers
(18) Tank of the future

36—CAVALRY JOURNAL (Great Britain)

April 1932

(1) The cavalry in France, March-April, 1918. Major Preston
(2) Cavalry battle honours. Part III. Major Edwards
(3) "The Great Bear Lake Patrol." Inspector LaNauze
(4) The Rurales of Mexico. Standing

37—REVUE DE CAVALERIE (France)

By Major N.B. Briscoe

March-April 1932

(1) Les groupes de reconnaissance. [The reconnaissance groups.] (III) Colonel Daubert

Colonel Daubert continues his series of articles on the employment of the fast ground reconnaissance agencies of the infantry division. This article considers their employment in an offensive action and consists of an illustrative problem with a discussion running through it. Interesting, but applicable to the conditions of continental Europe, and introducing nothing that is not known to our cavalry service.

(2) A propos d'un article sur la "cavalerie." [Reflections on the tactical rôle of the cavalry of the larger infantry units.] Chef de bataillon Picot

This article is a reply to one which appeared in the September-October (1931) "Revue de Cavalerie," by Major Brenet, entitled "The Cavalry." An academic discussion of the value of cavalry attached to infantry divisions and corps.

(3) Étude d'un franchissement de rivière par une division de cavalerie. [Study of a river crossing by a cavalry division.] By X.Y.Z. (See abstract, page 71)

(4) Un vieux régiment de hussards. Le régiment Colonel-Général. [An old regiment of Hussars. The regiment Colonel-General (5th Hussars).] Another regimental history in the series, with four plates. On 20 January 1795 this regiment had the unique experience of capturing by mounted action a fleet of enemy ships (Dutch) blocked by ice in a canal.

May-June 1932

(5) La défense de la brèche Kluck-Bulow par les corps de cavalerie Marwitz et Richthofen (6-9 septembre 1914). [The defense of the gap Kluck-Bulow by the Cavalry Corps of Marwitz and Richthofen (6-9 September 1914).] Lt. Col. Pugens

This is the first of a series of articles by this capable writer on this interesting subject. In this article each corps is introduced with a resumé of its operations prior to 6 September, its operations on that day, and its situation the night 6-7 September, and this installment includes a discussion of the difficulty of concerted action where each corps was under the orders of a different army.

(6) LE GROUPE DE RECONNAISSANCE. [The reconnaissance group.] (IV) Colonel Daubert

The final article in this series of discussions of missions of reconnaissance and security executed by the integral ground reconnaissance agencies of the infantry division, cavalry, cyclists, armoured vehicles, and supporting weapons.

(7) LES AUTOS-MITRAILLEUSES ANGLAISES. [Armoured cars in the British Army.] Capitaine de Labouchere

The first of a series of articles on this subject in which the discussion is based upon the British Field Service Regulations, the manuals on armoured car training, tank training, and various English magazine articles. Subjects discussed include strategical and tactical conception of future warfare, the rôle of armoured vehicles, recent experiments, types, organization, and employment.

(8) A PROPOS DU LIVRE DU GÉNÉRAL BRANDT "CAVALERIE MODERNE." [Apropos of General Brandt's book "Modern Cavalry."] Chef d'escadrons Z . . .

Captain Z, German, starts a series of differences of opinion, which are translated into the French by Lieutenant Charlois. The present article discusses General Brandt's ideas on cavalry missions, listed as protection, reconnaissance, establishment of a screen, occupation of zones, employment in battle, protection of a flank, pursuit, protection of a retreating force, general reserve, and raids. General Brandt says, that during the course of the military history of the world the means at the disposal of cavalry have varied continually but that the missions have always remained the same, which leads Captain Z to the conclusion that military history cases can never be studied too much by cavalry officers. The discussion is rather academic and introduces no new ideas.

(9) UN VIEUX REGIMENT DE HUSSARDS. Le regiment Colonel-General. [An old regiment of Hussars. The regiment Colonel-General (5th Hussars).] Another in the series of regimental histories, with the interesting plates showing uniforms of past periods when they were dressed as bravely as they fought.

(10) LE 17E GROUPE A.M.C. SUR LA HAMMADA DU GUIR. [The 17th Group A.M.C. on the Hammada du Guir.] Lieutenant Durin

Lieutenant Durin initiates a series of articles on the employment of armoured motor vehicles in the Morocco—Sahara country of North Africa, an "hammada" being a plateau, and he describes the geology, the climate, the water points, the flora and fauna, and the military value of the vast uninhabitable area between the Atlas Mountains and the Sahara Desert. The subject of the discussion is the employment of these military vehicles in exploration and siting of roads and trails.

38—FIELD ARTILLERY JOURNAL

March-April 1932

(1) STAGGERED POSITIONS. Captain Devine

(2) THE FIELD ARTILLERY AND CHEMICAL WARFARE. Lieutenant Sommerville

(3) NOTE ON THE ARTILLERY IN THE BATTLE OF BUZANCY. Colonel Lanza

(4) THE EFFECTS OF ARTILLERY FIRE. General Faugeron, French Army

(5) THE STOKES-BRANDT 81 MM MORTAR. Major Wallace

(6) THE RUSSIAN ARMY. Captain Ginsburgh

May-June 1932

(7) THE TRUCK DRAWN BATTERY. Captain Duncke!

(8) FRENCH ARTILLERY DOCTRINE. Major Wood

(9) EVOLUTION OF F.A. TACTICS DURING AND AS A RESULT OF THE WORLD WAR. Major Meyer

39—JOURNAL OF THE ROYAL ARTILLERY (Great Britain)

April 1932

(1) THE ARTILLERY BRIGADE IN ATTACK AT SHORT NOTICE. Major Richards

(2) 18-PR. AMMUNITION. Colonel Lewin

(3) BATTERY COMMUNICATIONS. Major Penrose

(4) THE 38TH (WELSH) DIVISION IN THE LAST FIVE WEEKS OF THE GREAT WAR. Major-General DePree

(5) "THESE VILE GUNS" (OR "A DAY WITH LT.-COL. CULVERIN'S BRIGADE.") By "Somborne"

(6) SOME HINTS ON BATTERY ADMINISTRATION. Captain Pemberton

(7) THE EMPLOYMENT OF A SURVEY COMPANY R.A. Captain Learmont

(8) VIA SIBERIA. By "A.G.H."

40—REVUE D'ARTILLERIE (France)

BY LIEUTENANT COLONEL L.P. HORSFALL

March 1932

(1) LE CANON MODERNE DIVISIONNAIRE. [Modern divisional artillery weapons.] Général Challéat

The French 75-mm. field piece dates from 1897. The requirements, power and mobility, are antagonistic. Mechanical traction gives a new means of solving the problem of mobility. The author discusses several possible solutions, and concludes that the present French field piece is still satisfactory, although capable of improvement.

(2) SUR LA THÉORIE PHYSIQUE (SCIENCE ET PHILOSOPHIE). [Physical theory (science and philosophy).] (I) Général Vouillemin

Human knowledge of the universe increases, but does understanding, in the philosophical sense make equal progress? Much remains to be done to liberate the public from superstitions and prejudices based on philosophy and science. The true scientist guards against confusing the problem and the proposed solution.

(3) LES PREMIERS CANNONIERS AUX COLONIES (DU DÉBUT DU XVIIE SIÈCLE À 1816.) [The first artillerymen in the colonies (from the beginning of the 17th Century to 1816).] (I) Captaine Basset

An historical account of the Royal Artillery Corps, formed in 1671, and other artillery units.

(4) ENCORE LES COUPS FUSANTS HAUTS. [More about high burst ranging.] Chef d'escadron Desrousseaux

A technical discussion of new mechanical methods of employing high burst ranging.

(5) UN PROCÉDÉ DE CALCUL POUR LE TIR AVEC SECTION S. O. M. AU MOYEN D'ABAQUES TRANSPARENTS. [A method of calculating firing data, using transparent graphical charts, with range sections equipped with the model of 1924 apparatus designed by the Society of Optics and Mechanics.] Capitaine Vernoux

A technical discussion of a graphical method of obtaining firing data with special optical instruments.

(6) RENSEIGNEMENTS DIVERS.—ETATS-UNIS: EMPLOI DES MITRAILLEUSES POUR LA PROTECTION DE COLONNES EN MARCHE. [Miscellaneous items.—United States: Use of machine guns for the protection of marching columns.] A review of an article in the "Coast Artillery Journal," Nov.-Dec. 1931.

April 1932

(7) SUR LA THÉORIE PHYSIQUE (SCIENCE ET PHILOSOPHIE). [Physical theory (science and philosophy).] (II) Général Vouillemin

A discussion of physical laws and theories.

(8) LES PREMIERS CANONNIERS AUX COLONIES (DU DÉBUT DU XVIIE SIÈCLE À 1816). [The first artillerymen in the colonies (from the beginning of the 17th Century to 1816).] (II) Captaine Basset

A history of colonial artillery units.

(9) NOTE SUR LES APPAREILS DE RÉGLAGE PAR COUPS FUSANTS HAUTS MOD. 1924 ET LEURS APPLICATIONS. [Notes on the model of 1924 apparatus for the adjustment of artillery fire with high bursts, and methods of use.] (I) Lieutenant-colonel Camps

A discussion of the accuracy of the fire control instruments designed by the Society of Optics and Mechanics, and their use in high burst ranging.

(10) DE L'ARTILLERIE PORTÉE À L'ARTILLERIE À TRACTEURS TOUS TERRAINS. [From portee artillery to tractor-drawn artillery capable of maneuver on any terrain.] Capitaine Belleville

Portee artillery evolved during the World War (1915) because of the necessity of having artillery in reserve capable of intervening in the action rapidly on any part of the front. Portee artillery has perfect strategic mobility, but no tactical mobility. The article discusses tractor-drawn artillery, capable of rapid movement on all sorts of terrain, and is illustrated with several good photographs.

(11) UNE COLLECTION DE FUSÉES. [A collection of fuzes.] Boyer

Describes an exhibit of French fuzes collected by Col. Aragu, shown at the Hotel des Invalides.

(12) RENSEIGNEMENTS DIVERS.—SUISSE: CANON MITRAILLEUR DE 2 CM. [Miscellaneous items.—Switzerland: A 20-mm. machine gun.] Description of an experimental weapon for use by the infantry as an accompanying gun, or as an antiaircraft gun. It is capable of firing 200 to 230 rounds per minute.

41—COAST ARTILLERY JOURNAL

March-April 1932

(1) JAPANESE ANTIAIRCRAFT ARTILLERY. Lieutenant Engelhart

(2) THE ANTIAIRCRAFT MACHINE GUN PROBLEM OF TODAY. Captain Conway

(3) ANTIAIRCRAFT AND THE 200-M.P.H. BOMBER. Major Robison

May-June 1932

(4) HARBOR DEFENSE COMMAND. Major McCatty

(5) TRANSMISSION AND DISSEMINATION OF INTELLIGENCE DATA. Major Meyer

(6) THE EFFECT OF ANTIAIRCRAFT ARTILLERY ON THE EMPLOYMENT OF AVIATION. Captain Timberlake

(7) THE INTERNATIONAL SETTLEMENT. Captain Grogan

(8) KOSCIUSZKO THE PATRIOT—FATHER OF AMERICAN ARTILLERY. Brink

(9) A NEUTRAL OBSERVER AT SHANGHAI

(10) THE EARS OF THE ARMY. Bassett

43—REVUE DES FORCES AERIENNES (France)

BY CAPTAIN W.F. SAFFORD

March 1932

(1) OBSERVATEURS DE CHAMP DE BATAILLE. [Observers of the battle field.] Colonel breveté Jauneaud

Are there a sufficient number of officers in the army, including the Air Corps, qualified as necessary for aerial observers? No, not even for their own arms, let alone combinations with other arms. The importance of aerial reconnaissance is stressed—but its limitations are also mentioned, to emphasize importance of numbers of trained observers and speed of communication. The author points out that many good observers are lost by making them mediocre pilots and that many who cannot pilot (through inaptitude, wounds, physical disabilities, etc.) would make observers. The author then discusses means for bettering instruction and for recruiting observers. The whole offers a good deal of food for thought.

(2) LA PROTECTION DU BALLON D'OBSERVATION. [Protection of observation balloons.] Capitaine Delmas

The following questions are considered: (1) The tactics of attack on a balloon by a pursuit airplane; (2) The problem of defense by terrestrial machine guns; (3) Improvements to intensify this defense. Whatever the tactics of the attack may be the defense must be prepared to meet it. So far the defense has been at a disadvantage. With a non-inflammable gas the defense is easier. However, schooling of defenders and practice on targets, the use of protective balloons, antiaircraft artillery and pursuit planes are some of the means of ameliorating conditions. It still remains a problem worthy of interest.

(3) LA RUPTURE DES AVIONS EN VOL. [Rupture of airplanes in flight.] Capitaine Guyot

Of all accidents the most difficult to ascertain the causes are those where a rupture occurred during flight. Yet such a class should be studied carefully in view of the great speed and high ceiling as well as the acrobatics of pursuit planes, where ruptures are most apt to occur. In this article Capt. Guyot follows some accidents which took place during the trials of pursuit planes and shows the difficulty of interpretation, from the pieces, of the real cause. Somewhat technical but of value to designers and builders of planes.

(4) SUR LES RELATIONS DE L'AÉRONAUTIQUE COLONIALE AVEC LES SCIENCES GÉOGRAPHIQUES. [On the relation of the colonial air forces with the geographic sciences.] (I) Capitaine Pennès

Although airplanes are used to some extent on the secondary works of topography and to augment terrestrial reconnaissance for map making they are not as yet being used to the limits of aerial navigation. The article is a plea to increase their use to aid scientists in completing the scientific inventory of our world. In particular, the author deals with what has been done and indicates what might be done in the colonial possessions of France.

(5) CONTRIBUTION À L'ÉTUDE D'UN APPAREIL NOUVEAU POUR L'INSTRUCTION EN SALLE DU TIR AÉRIEN. [Contribution to the study of a new apparatus for instruction on an aerial target range.] Capitaine Mauriot

A technical article on apparatus for aerial gunnery. Due to the three-dimensional problem combined with speed of gun and target and time of flight of projectile any new ideas on this subject are worthy of consideration.

(6) INFORMATION GÉNÉRALE. [General information.] (a) Is a heavy combat airplane desirable or necessary? A reply to the article by Major Andrews in the January issue of the "Royal Air Force Quarterly." The present article takes the negative side. (b) Aeronautics and naval tactics. A general consideration of the powers and limitations of air forces and the uses of airplanes with the Navy.

(c) The R.A.F. in 1914 and 1915. Extract from an article published in "The Aeroplane," 30 December 1931. (d) Aerial reconnaissance, foundation of decisions in war. Criticism by Capt. Ritter, published in "Militär-Wochenblatt," 25 Dec. 1931, of articles by Gens. Armengaud and Voisin previously published in this magazine.

(7) LE MATÉRIEL DES AVIATIONS NATIONALES. [Foreign air material.] (a) Description and photographs of the latest model "Salvator" (Italian) parachute. It apparently has several good features. (b) The "Robur" parachute. Invented by a Swede and made in Holland. Description and photographs. (c) Photograph and short description of the work plane "Morane-Saulnier 250."

April 1932

(8) LA QUESTION DES RÉSERVES GÉNÉRALES D'AVIATION. [The question of general aviation reserves.] Lieutenant-Colonel Pastier

All are convinced of the great role aviation will have in any future war, but this role is not regarded in the same manner by all, varying from a large independent force to one in close liaison with terrestrial forces. In this study we must consider (1) the missions of the air forces, (2) composition of reserves to fulfill missions, (3) the strength of general reserves. The article gives a good deal to think about for our own aviation.

(9) LA JUSTESSE DU TIR À LA BOMBE. [The accuracy of bomb fire.] Capitaine Billard

A very technical study—and mathematical—on the subject of accuracy in bomb firing.

(10) DISPOSITION DES FEUX DE ROUTE À BORD DES AVIONS. [Disposition of navigation lights on board aeroplanes.] Ingénieur en chef de l'Aéronautique Poincaré

A technical study of this subject which might be of interest to aviators but not to laymen.

(11) EXPLOITATION RAPIDE DU RENSEIGNEMENT PHOTOGRAPHIQUE AÉRIEN. [Rapid exploitation of aerial photographic information.] Capitaine Petitot

Photography has made important progess optically, chemically and mechanically in the last few years. Not the least are the colored and shaded photographs. It may be possible to develop photographs during the course of a mission. The author then expands with a technical study of the subject, all of which is of more interest to flyers than to others.

(12) LA RECONNAISSANCE DE NUIT. [Night reconnaissance.] Capitaine Bailly

In 1918 night reconnaissance was made by units belonging to the reserve for armies and groups of armies. The return was insufficient and less than was expected. This was due mainly to atmospheric conditions. Some progress has been made, but not enough. The author cites the requisite characteristics for planes for night reconnaissance and why. An interesting article.

(13) LE VOYAGE FRANCE-MADAGASCAR ET RETOUR D'UN MULTIMOTEUR FRANCAIS. [The voyage: France—Madagascar and return of a French multimotor.] Capitaine Boutillier

An interesting article with notes on matériel, equipment, modifications of the standard Farman tri-motor, atmospheric and meteorological conditions, stops en route and the necessity of experimental flights in strange countries to determine the best type of plane and mechanical modifications.

(14) LE MATÉRIEL DES AVIATIONS NATIONALES. [National aviation material.] (a) The D.C.A. "Hotchkiss" antiaircraft machine guns. (b) The two-seater "Bristol 118" (Photo). (c) The "Breguet 410" (Sketches and description). (d) Mobile support for automatic arms, especially designed for airplanes.

May 1932

(15) L'OBSERVATION AERIENNE DU COMBAT DE L'INFANTERIE. [Aerial observation of infantry combat.] Commandant Astruc

Although ALL reconnaissance and observation had a bearing directly or indirectly on infantry combat, this article deals with direct liaison only. One of the great difficulties of combat is lack of information. This is frequently caused by inadequate means of transmission or by their failure. Aviation plays an important part in both gaining and transmitting information. Because of the scope of modern battles, specific missions must be assigned. The author then describes the services that observation aviation can render the infantry, normal working conditions, the practical execution of missions, and gives an historical example. Although this article in general parallels our own teachings it is a very interesting summary; instructive for the uninformed and a review for others.

(16) LE "PROBLÈME DU TIR" DANS L'AVIATION DE BOMBARDEMENT. [The "problem of fire" in bombardment aviation.] Lieutenant-Colonel Guyomar

Essays relative to a method of solution; relations between the technical problem and the tactical solution of the mission. The problem is in some respects, comparable to artillery fire, with calculations of probable error, mean dispersion, etc. While written primarily for the bomber, the layman may nevertheless cull information of value on possibilities and limitations of this form of attack.

(17) LA STABILISATION AUTOMATIQUE ET LA COMMANDE A DISTANCE DES AVIONS. [Automatic stabilization and distant control of airplanes.] Franck

Experiments along these lines have been common since 1919. The article sums them up and gives what may be the practical applications of them. All planes have a certain amount of inherent stability depending upon whether or not the plane is to be flown by a pilot. The complexity of the stabilizing system varies. A very interesting article, not too technical, opening for many, a new field of thought.

(18) INFORMATION GÉNÉRALE. [General information.] (a) German aviation during the War. Extracts with photos, from "Die deutschen Luftskreitkräfte im Weltkrieg"; (b) The development of the work of maritime aeronautics. A resumé from an editorial in "Flight" (British), with photos.

(19) LE MATÉRIEL DES AVIATIONS NATIONALES. [The material of the aviation of nations.] (a) The new 20 mm. Soleure machine guns. A short description. (b) Photographic progress. A new film and a new camera—both U.S. (c) Two "Boeing" pursuit planes (photos). (d) The Curtis "Hawk" XP.6E, pursuit plane. Photo and brief description. (e) Naval pursuit plane, Curtiss XF.9C-2 (photo). (f) The Curtiss "Falcon" O-39 observation plane (photo). (g) The Curtiss A.8 attack airplane (photo). (h) The new Fokker D.XVII pursuit plane (two photos).

(20) CHRONIQUE DES ACTUALITÉS. [Chronicle of events.] (a) United States. The minimum needs of American military aviation (Extracted from "Aeri-Digest"). (b) A test of blind flying (U.S.). (c) Maneuvers in a pursuit group (U.S.).

44—ROYAL AIR FORCE QUARTERLY (Great Britain)

January 1932

(1) THE GRAND STRATEGY OF ALEXANDER THE GREAT. Part I. Major-General Fuller
(2) THE DEVELOPMENT OF LEADERSHIP AND MORALE IN THE R.A.F. Wing-Commander Gordon-Dean

April 1932

(3) THE GRAND STRATEGY OF ALEXANDER THE GREAT. Part II. Major-General Fuller
(4) CRUISE OF No. 202 (F.B.) SQUADRON. Flight-Lieut. Whittle
(5) THE FLEET AIR ARM. Captain Dorling
(6) CO-OPERATION OF AIRCRAFT WITH A MECHANIZED ARMY. Squadron-Leader Stevenson

45—MILITARY ENGINEER

May-June 1932

(1) A GLANCE AT GERMANY. Major Reynolds
(2) A PROPOSED PUBLICITY PROGRAM FOR THE ARMY. Lieutenant Braden
(3) PANAMA TIDAL DIFFERENCES. Kirkpatrick
(4) THE GEODETIC CONTROL OF NORTHERN LUZON. Lieutenant Roberts
(5) THE "MONOCACY" AT TIENTSIN, JUNE, 1900. Brown
(6) A SURVEY OF THE O. R. C. Lieut. Colonel Finch
(7) RUSSIA AS I SAW IT. Lieutenant McElroy
(8) THE UNITED STATES SECTIONAL AIRWAY MAPS. Ross
(9) SCALE MODELS IN ARMORY ENGINEER DRILL. Captain Allen
(10) THE WATER SUPPLY OF SANTIAGO DE CUBA. Montero
(11) COMMERCIAL AIR TRANSPORT IN LATIN AMERICA. Willcox

46—ROYAL ENGINEERS JOURNAL (Great Britain)

June 1932

(1) ENGLAND'S FOOD SUPPLY A lecture delivered at the School of Military Engineering, Chatham, on December 3rd, 1931. Fayle
(2) DEMOLITIONS CARRIED OUT AT MONS AND DURING THE RETREAT, 1914. Major-General Buckland
(3) THIS TANK BUSINESS—IN FACT AND FANCY. Colonel MacLeod
(4) HISTORY OF THE 7TH FIELD COMPANY, R.E., DURING THE WAR, 1914-1918. Captain Baker
(5) THE CROSSING OF WATER OBSTACLES BY ARMOURED CARS. Major Dening

47—SIGNAL CORPS BULLETIN

May-June 1932

(1) WIRE INDUSTRY VITAL TO INDUSTRIAL WAR PLANNING. Lieutenant Bullock
(2) MEMORANDUM OF EXPERIMENTS WITH WIRELESS TELEGRAPHY BY THE SIGNAL CORPS, U.S. ARMY. Major General Squier
(3) THE GERMAN SIGNAL CORPS
(4) REHABILITATION OF THE ARMY RADIO NET. Lieutenant Guest
(5) SIGNAL ORGANIZATION. Colonel Reber

48—THE HORSE

January-February 1932

(1) THE GOLDEN AGE OF RACING. Carter
(2) THE BUSINESS OF KINGS. Stringer
(3) CHICAGOANS IMPROVE BREEDING AND TRAINING METHODS. Adams

March-April 1932

(4) THE THOROUGHBRED HORSE. Colonel Moss
(5) EQUINE TRAINING METHODS ACCOUNT FOR FAME OF CHICAGO BLACK HORSE TROOPS. Adams

May-June 1932

(6) THE AMERICAN EQUESTRIAN TEAM PREPARES FOR THE OLYMPIC GAMES. de Roaldes

49—QUARTERMASTER REVIEW

May-June 1932

(1) GENGHIS KHAN. Captain Fitz Gerald
(2) FORT PHIL KEARNEY—THE FETTERMAN MASSACRE. Lieut. Shockley
(3) ECONOMICS. Major Watrous, Jr.
(4) OUTLOOK FOR DISARMAMENT. Healy

52—MILITARY SURGEON

April 1932

(1) A CASUALTY CLEARING STATION. Colonel Lorenz
(2) REPORT OF THE HEALTH OF THE BRITISH ARMY FOR THE YEAR 1930. Lieut. Colonel Love
(3) BEGINNINGS OF THE ARMY MEDICAL SERVICE. Lieut. Colonel Duncan

May 1932

(4) THE CARE AND EVACUATION OF FRACTURE CASES (BATTLE CASUALTIES). Major Kirk
(5) EIGHT YEARS OF ORGANIZED RESERVE TRAINING. Colonel Skinner
(6) TRANSPORTATION OF HOUSEHOLD GOODS BY AUTO VAN. Lieut. Colonel Michie

June 1932

(7) CARE OF GAS CASUALTIES. Major Hillman
(8) THE DAYS GONE BY: AN AMBULANCE TRAIN IN 1864. Lieut. Colonel Duncan

July 1932

(9) COMMENTS ON A PROPOSED CASUALTY CLEARING STATION. Colonel Grissinger

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(1) INDUSTRIAL MINUTEMEN OF TODAY. Hon. F.H. Payne (Assistant Secretary of War)
(2) UNKNOWN SOLDIERS. Lieut. Colonel Brady
(3) ORDNANCE SERVICE. Major Aurand
(4) THE PROBLEM OF VISION FROM TANKS. Lieutenant Icks
(5) TACTICS AND MATÉRIEL. Part II. General Challéat, French Army
(6) KEEPING OUR WEAPONS READY FOR ACTION. Captain Vander Hyden
(7) POSSIBILITIES OF THE "AIR TANK." Part VI. Colonel Wagner
(8) THE BALLISTIC EFFICIENCY OF GUNS. Lieut. General Rohne, German Army

May-June 1932

(9) ECONOMY AND THE ARMY. Nickerson
(10) OUR WAR SECRET—THE PEDERSEN DEVICE. Major Hatcher
(11) BUILDING A GREAT WEAPON IN RECORD TIME. Captain Slattery
(12) STYLES IN SMALL ARMS PROJECTILES. Captain Green
(13) POSSIBILITIES OF THE "AIR TANK." Part VII. Colonel Wagner
(14) THE STABILITY OF SMOKELESS POWDER. Hale
(15) WEAPONS AND SECURITY. (Editorial)

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April 1932

(1) ORGANIZATION AND OPERATION OF THE A.E.F. FIELD LABORATORY
(2) COMBAT MORALE AND CHEMICALS
(3) NAVAL ASPECTS OF CHEMICAL WARFARE
(4) EFFECT OF THE INCREASED USE OF CHEMICALS ON SUPPLY PROBLEMS IN A THEATRE OF OPERATIONS

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April 1932

(1) TIME IS LIFE. (Prize essay, 1932) Lieutenant Eller
(2) THE PROBLEMS IN NAVIGATING SMALL AIRPLANES. Lieutenant Gillon
(3) NAVAL UNIFORMS—ORIGIN AND DEVELOPMENT. Schoonmaker
(4) MUTINY—A STUDY. Pratt
(5) RUSSIA. Rear Admiral Crosley
(6) NOTES ON INTERNATIONAL AFFAIRS

May 1932

(7) AN ANALYSIS OF THE AIR MENACE. Commander Parker
(8) MERCHANT SEAMEN. Lieut. Commander Riesenberg
(9) A WALK THROUGH THE NAVAL ACADEMY IN BYGONE DAYS AND TODAY. Secretary Magruder, Naval Academy
(10) SOME NAVAL ASPECTS OF THE WAR DEBT QUESTION. Captain Knox
(11) THE ASIATIC STATION. Lieutenant Johnson
(12) THE DEVELOPMENT OF THE FACULTY OF COMMAND. Captain Greenslade
(13) NOTES ON INTERNATIONAL AFFAIRS

June 1932

(14) COMMAND, U.S. NAVY. Rear Admiral Greenslade
(15) THE INFLUENCE OF SEA POWER ON AMERICAN COLONIAL WARS. Morrell
(16) A NEW TYPE FOR THE NAVY. Lieutenant Lademan, Jr.
(17) THE INFLUENCE OF HISTORY UPON SEA POWER. Lieut. Commander Safford

July 1932

(18) OUR NAVAL POLICY. Admiral Pratt
(19) THE CONQUEST OF THE BALTIC ISLANDS. Captain von Koblinski
(20) NAVAL GUNFIRE IN SUPPORT OF LANDINGS. Lessons from Gallipoli. Lieutenant Ansel
(21) WHEN A CRUISER CAPTURED AN ISLAND. Hanks

55a—INFORMATION BULLETIN [ND]

November-February

(1931-1932)

(1) COMPARISON OF NAVAL FORCES—UNITED STATES AND JAPAN
(2) GENERAL NAVAL NOTES (Japan, France, British Empire)
(3) COORDINATION OF NAVAL AND AERIAL FORCES

56—MARINE CORPS GAZETTE

May 1932

(1) THE MAKING OF A LEGIONNAIRE. Colonel Evans
(2) NAVAL GUN FIRE IN SUPPORT OF A LANDING. Lieutenant Ansel
(3) BOATS IN THE LANDING ATTACK. Major Del Valle
(4) THE SINO-JAPANESE SITUATION

63—SCIENTIFIC AMERICAN

May 1932

(1) VISCOUNT GREY AND LORD HALDANE. (I) Captain Puleston

June 1932

(2) FRIGHTFULNESS IN WARFARE. (Editorial)
(3) PERSONALITIES OF THE WORLD WAR: VISCOUNT GREY AND LORD HALDANE. (II) Captain Puleston

64—AMERICAN JOURNAL OF INTERNATIONAL LAW

April 1932

(1) USE OF FORCE AND WAR. Wilson
(2) A SOLDIER'S PROPERTY IN WAR. Hudson
(3) WHEN DOES WAR EXIST? Wright

66—CURRENT HISTORY

April 1932

(1) MUSSOLINI TURNS TO THOUGHTS OF PEACE. Elliott
(2) WHY AMERICA REJECTED THE LEAGUE. Nevins
(3) THE BATTLE OF SHANGHAI. Gleaves
(4) THE POLITICS OF DISARMAMENT. Gerould

June 1932

(5) THE SOVIETS PREPARE FOR WAR. Tobenkin
(6) THE LEGACY OF VERSAILLES. Shaw
(7) ELEVEN YEARS OF REPARATIONS. Williams
(8) THE DEADLOCK AT GENEVA. Gerould

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(9) WARS AND RUMORS OF WARS. Gerould

68—FOREIGN AFFAIRS

July 1932

(1) THE WAR IN THE FAR EAST: A SOVIET VIEW. Radek

70—FOREIGN POLICY ASSOCIATION: FOREIGN POLICY REPORTS

22 June 1932

(1) MILITARY OCCUPATION OF MANCHURIA

71—ILLUSTRATED LONDON NEWS

5 March 1932

(1) NAVAL DEVELOPMENTS OF INTEREST TO THE DISARMAMENT CONFERENCE: NEW ADDITIONS TO THE UNITED STATES FLEET
(2) WAR IN SHANGHAI

10 March 1932

(3) THE INDESTRUCTIBLE SHIP: THE KÖNIGSBERG ADVENTURE
(4) THE WAR IN THE FAR EAST

26 March 1932

(5) NAVAL DEVELOPMENTS OF INTEREST TO THE DISARMAMENT CONFERENCE: NEW ADDITIONS TO THE JAPANESE FLEET
(6) AERIAL WARFARE NEAR SHANGHAI

2 April 1932

(7) A SYMBOL OF OUR TIME: THE WORLD'S LARGEST WIND TUNNEL

4 June 1932

(8) THE WAR OFFICE CONVOY: A STERN TEST FOR BRITISH CARS

18 June 1932

(9) "GUARDS' DRILL" IN THE AIR: MIRACLES OF PRECISION IN FORMATION FLIGHTS FOR THE AIR FORCE DISPLAY
(10) THE MILITARY ASPECT OF ASCOT WEEK: ALDERSHOT TATTOO PAGEANTRY

74—L'ILLUSTRATION

26 March 1932

(1) FERDINAND DE BULGARIE ET BRIAND. [Ferdinand of Bulgaria and Briand.]
(2) A LA GLOIRE DE MANGIN. [The glory of Mangin.]
(3) LE MINISTÈRE DE LA DÉFENSE NATIONALE. [The Minister of National Defense.]

2 April 1932

(4) LA RACE BLANCHE: EST-ELLE CONDAMNÉE A DISPARAITRE? [The white race: Is it destined to disappear?]

(5) COMMENT UNE GUERRE MONDIALE FUT ÉVITÉE EN 1908. [How a world war was avoided in 1908.]
(6) L'ÉTUDE AÉRODYNAMIQUE DES AVIONS. [The aerodynamic studies of airplanes.]

16 April 1932

(7) CENT QUINZE ANS D'EFFORTS DE DÉSARMEMENT TERRITORIAL ET MARITIME (1817-1931). [115 years of effort towards land and naval disarmament (portrayed with maps).]

4 June 1932

(8) LES MÉMOIRES DE MARÉCHAL JOFFRE. [The memoirs of Marshal Joffre.]

11 June 1932

(9) LES MÉMOIRES DE MARÉCHAL JOFFRE. [The memoirs of Marshal Joffre.]

18 June 1932

(10) LES MÉMOIRES DU MARÉCHAL JOFFRE. [The memoirs of Marshal Joffre.]

75—LITERARY DIGEST

2 July 1932

(1) WORLD REACTION TO THE NEW HOOVER ARMS PLAN

76—LIVING AGE

April 1932

(1) THE WORLD OVER. (Editorial)
(2) JAPAN AGAINST AMERICA. Tietgens
(3) IS FRANCE BACKING JAPAN? Colepepper
(4) OLD AND NEW RUSSIA. Basseches & Sieburg

May 1932

(5) WORLD WITHOUT WAR. Salter
(6) ZAHAROFF, MERCHANT OF DEATH. de Hautecloque

June 1932

(7) REPARATIONS ONCE AGAIN. Bonn
(8) FIGHTING AGAINST JAPAN. "Charlie Chan"

83—ROUND TABLE (Great Britain)

March 1932

(1) THE INTERNATIONAL CRISIS
(2) CHINA, JAPAN AND MANCHURIA
(3) THE RESULTS OF THE ROUND TABLE CONFERENCE
(4) REPARATIONS IN PRACTICE
(5) INDIA: THE STRUGGLE WITH CONGRESS

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(6) DISARMAMENT
(7) THE FAR EAST
(8) THE SHANGHAI STANDPOINT

90—ECONOMIC GEOGRAPHY

April 1932

(1) AGRICULTURAL REGIONS OF ASIA: PART II—THE NEAR EAST. (See July 1931 issue for first instalment) Van Valkenburg
(2) MANCHURIA: THE LAND AND ITS ECONOMY. Stewart

94—POLITICAL SCIENCE QUARTERLY

June 1932

(1) TWO UNPUBLISHED PAPERS OF THORSTEIN VEBLEN ON THE NATURE OF PEACE. Dorfman
(2) WORLD REVOLUTION AND SOVIET FOREIGN POLICY. Florinsky
(3) THE MACHINERY OF EXPERIMENT AT GENEVA. Pipkin

97—ASIA

May 1932

(1) ECONOMIC SANCTIONS, BLOCKADES AND BOYCOTTS. Eckel
(2) FRENCH POLICY IN THE FAR EAST. Brown
(3) BATTLE DRESS OF FEUDAL JAPAN. Asa Matsuoka
(4) JAPAN GOES INTO REVERSE AGAINST RUSSIA. Gilbert
(5) JAPANESE DUAL DIPLOMACY. Byos

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May 1932

(1) MANCHURIA—THE A B C OF PEACE. Myers
(2) A PROJECT CONCERNING DISARMAMENT. Turney
(3) OBSTACLES TO DISARMAMENT. Knudson

102—NATIONAL GEOGRAPHIC MAGAZINE

May 1932

(1) AN ARMY ENGINEER EXPLORES NICARAGUA. Lieut. Colonel Sultan

108—COSMOPOLITAN

July 1932

(1) SETTLING THE WAR DEBT. Coolidge

116—SATURDAY EVENING POST

7 May 1932

(1) THE JAPANESE SMOKE SCREEN. Marcosson

ADDENDUM

ESCUELA SUPERIOR DE GUERRA, MEXICO

The first publication of this newly-founded school has recently been received. For some years Mexico has felt the need of a school such as our Command and General Staff School or other schools for higher and more advanced military education, such as exist in most countries. In consequence of this need the "Escuela Superior de Guerra" was created and functions under the "Direccion General de Educación Militar." The purpose of this school is similar to that of our own Command and General Staff School—"the instruction and training of officers of all arms and services in duties of staff and command, to stimulate the minds, awaken initiative and to study scientific military preparation for war."

The pamphlet received contains the Act of Inauguration of Courses, signed on 15 April, 1931, at the "Colegio Militar," and discourses pronounced on that occasion by various officials, including Pascual Ortiz Rubio, President of Mexico.

It is extremely interesting to note that the Director of this school is Lieutenant Colonel Luis Alamillo, who will be remembered by many officers who met him when, as Captain, he visited here in December 1931.

Section 3

ABSTRACTS OF FOREIGN-LANGUAGE ARTICLES

EXPLANATION

The entries from foreign-language periodicals in the Catalog of Selected Periodical Articles (Section 2) include concise digests of the articles. Section 3, within the limitations of available facilities, translates in full or abstracts a few of the more important of such articles.

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RIEDL, R. Ludwig.—**Artillery notes on the Austro-Hungarian offensive in June 1918.** [Artilleristische Betrachtungen zur österreichisch-ungarischen junioffensive 1918.] (Militarwissenschaftliche Mitteilungen, May-June 1932) Translated by Major A. Vollmer

I. THE JUNE OFFENSIVE

In the beginning of 1918 the situation of the central powers was good, but there were signs of exhaustion, and it was realized the war must be brought to a close before the American strength would make itself felt. So Germany began her offensive on the West Front towards the end of March.

The existence of the Austro-Hungarian Monarchy would be threatened by Italy as soon as the latter undertook a major offensive. Only a victory over Italy would avoid this. The combat strength of Austro-Hungary was favorable in the Spring of 1918. The downfall of Russia and Rumania permitted 52 to 54 divisions to be brought against the hitherto numerically superior foe in the southwest.

A. Preparations for the offensive

1. In general

The Army Headquarters and Field Marshal Conrad were already engaged in the winter of 1917-18 with the project of a major offensive.

This was not to occur until sufficient munitions and material had been assembled. In April the actual preparations commenced. At this time there were 30 divisions in the front line, 11½ divisions and 2 cavalry divisions in rear; comprising 533 battalions, 71 squadrons on foot, 27½ squadrons mounted, 891½ batteries with 5,000 guns. For the offensive these forces were to be strengthened by 50½ infantry divisions and 8 cavalry divisions. A tremendous amount of material had to be assembled in from 6 to 8 weeks. The Eleventh Army alone demanded 30,000 tons of munitions, 600 trucks, 45 train-echelons, many miles of cable railway, and over 10,000 horses. These figures do not include needs for troop transport and rations.

Concerning the area of attack there were the following plans: Field Marshal Conrad wished to make the main effort between Astico and Piave with a secondary effort across the Piave on Treviso and a demonstration in Elschtale. The general of artillery of the Eleventh Army preferred that the main effort be made between Astico and Brenta. Field Marshal Baroevic believed that a major attack on his front would meet with success. General Krauss, Infantry, wanted the main effort to be made on each side of the Gardasee. In a post war study, Air Field Marshal Goiginger goes on record for one attack group to cross the Piave, and a mountain echelon, of a strength of 25 to 26 divisions, 3,500 guns and 5,000 machine guns, to operate on a 20 to 40 kilometer front far to the west.

2. Artillery Preparations

(a) In general

The experience gained in the great battles served as a guide for the amount of artillery needed. The Germans had attacked on the West Front with 3,600 guns on a 32 kilometer front (1 gun to each 9 meters). The Fourteenth Army had attacked at Flitsch—Tolmein on an equally wide front, with 1,621 guns (according to the latest research in the field orders there were 2,086 guns)—hence, 1 gun to each 19 or 15 meters. In the beginning of April, in the Isonzo army, there were 2,322 guns (1 gun to each 19 meters), and in the Eleventh Army only 611 guns (1 gun to each 74 meters).

An extract of the order of Army Headquarters for the offensive to take place on 1 June reads as follows:

> "Main effort of the Eleventh Army with 12 infantry and 2 cavalry divisions west and 8 infantry divisions east of the Brenta. Main effort of the army group Boroevic across the Piave on Treviso. Demonstration Tonale, two days before Boroevic and Eleventh Army, on Edolo. The hour of attack will be announced later."

In the beginning of May difficulties developed in the procurement and supply of ammunition. By the end of the month half of the amount needed was in place behind the lines, but only a fraction was actually in the positions. It was often impossible to surmount the difficulties of transport during continual rain and snow. At this time the Piave shock group had little more than half its ammunition. The scarcity of horses was a serious one. Many units were crippled for transport of batteries, munitions, and rations. In adverse weather supplies had to be manhandled upgrade so that, at the beginning of the assault, troops were already exhausted.

At the end of May, Boroevic demanded 15,000 additional horses and 14 days more rations. He placed the XVI and XXIII Corps alongside of his attack echelon, attacked Montello with the reinforced XXIV Corps and in this way split up his forces.

There was to be a 5½ hour artillery preparation in the Eleventh Army, and one of 4½ hours in the Boroevic group. Specific instructions were not given concerning the use of gas. [In the Flitsch breakthrough the gas bombardment was followed, after a 1½ hour pause, by the fire of high explosives for 1½ hours—giving the gas time to spread out. On

June 15, in many places the gas had become dissipated. There was a great scarcity of gas shells: in the Eleventh Army to each gun 125 rounds, to each field howitzer 106 rounds, to each mountain gun and howitzer 218 rounds, to each 15 cm. howitzer 81 rounds—hardly enough for the first gassing of the target areas. There was no reserve ammunition. Army headquarters was unable to help because procurement of poison gas was almost impossible. In part the gas shells which were fired were left over from the Tolmein offensive and had been stored in the open. According to information from prisoners their effect was small.]

(b) Artillery Requirement in the Isonzo Army at the end of May

The Army Headquarters gave the following instructions concerning artillery attack strength:

Guns: 544 light, 90 medium and heavy flat trajectory; 690 light, 220 medium and 14 heaviest high angle fire—total 1,558 guns. In the front of the main effort (28 kilometers in width) there were 1,335 guns—that is 1 gun for each 21 meters of front. In the 18 kilometer front of the actual attack echelon (14th, 24th, 58th, 64th, and 70th divisions) there were 1,110 guns—that is 1 gun to each 16.1 meters.

Ammunition: 6 days of fire and 200,000 gas shells. The gas munitions (8.3 rounds per meter on the front of the main effort) should suffice (?) for four bombardments of the enemy batteries, observation and command posts, and breakthrough areas.

Trench mortars: 116 medium and 115 heavy. Sufficient ammunition for many hours of fire.

A number of balloon companies. [Note: The Isonzo Army was better off as to guns but worse off as to trench mortars than was the Fourteenth Army in 1917. Of particular value was the great number of field howitzers. Gas shells: The Fourteenth Army had only the C type (yellow cross); the Isonzo Army had for the most part the B type (blue cross). Blue cross forced the enemy into gas masks. 12,000 black and green cross gas shells, intended to penetrate all masks, were still in transit on 15 June.]

B. The Course of the Attack

1. In general

As was learned later, the enemy was well informed. On 26 May he struck with a considerable force on the Tonale, and seriously upset the preparations for the demonstration there. In the units charged with the main effort many newly arrived batteries had little or no ammunition. In spite of incomplete preparations, flooded streams and snow, the attack could no longer be delayed. The German offensive in France had been stopped, the high tide of American reinforcements had been reached, the pressure on the Balkans was increasing, subsistence was getting precarious. So the great offensive was at first set for 7 June, then postponed until 11 June, but actually began on 15 June.

The portrayal of this heroic battle does not come within the scope of this study. The troops of all nations gave their best. Sketch 1 shows the first lines reached. On these lines the offensive stopped, due to the unfavorable circumstances, especially the high water of the Piave. But, in general, it was the changed defensive system of the Italians which conquered—their elastic defense, involving withdrawal from forward positions, against which the fire of the German artillery was spent uselessly. The enemy air superiority was likewise marked. On 19 June, therefore, the high command halted the attack, and withdrew the troops.

Concerning artillery effect it is noted:

(a) XVI Corps. Until 3:30 P.M., weak, then increased, finally superior enemy artillery fire. Gas seems to force the enemy merely to put on masks; it does not put them out of the combat. Accompanying batteries were

destroyed in a few minutes after their advance. Communications between batteries and observers who had crossed the Piave could not be maintained. Therefore it was impossible to silence the enemy positions which could not be located from the east bank, nor could our own lines be located, hence no barrage could be laid down in front of them. The crossing of the many arms of the stream took more time than expected. Fog and smoke made observation difficult. Hence the barrage was being laid down far in advance of our infantry, and the enemy was able to meet them with undepleted strength. Infantry-artillery cooperation was inadequate.

(b) III Corps. The scarcity of ammunition, already felt by noon 15 June, hindered the energetic support of the advancing infantry. Inasmuch as the munitions supply was brought up on only one road, and this road was under constant enemy fire and obstructed by broken down transport, the batteries soon ran out of ammunition. Reserves and accompanying batteries were gassed by the enemy.

(c) Edelweiss Division. By 3:30 enemy artillery fire became superior to our own. Gas was ineffective. The difficulties of ammunition supply caused an early shortage. Only a few minutes' artillery preparation was possible. Fog and poor visibility affected the cooperation of the arms.

Concerning the actual number of guns and the amount of ammunition, there is no information in the field orders. An attempt will be made to give some idea of it:

(a) Guns. 4,800 on the 90 kilometer front—1 per 18 meters in the mountains, 1 per 20 meters on the Piave.

(b) Munitions. 570 per gun or 30 to a meter of front.

Opposed to the enemy's superiority in artillery, this was a highly inadequate number of guns and ammunition. The zone of attack was too wide, the artillery density too low.

2. The Conquest of Montello

The mission of the XXIV Corps became "autonomous attack on Montello." Its artillery was accordingly reinforced. On and back of the Montello there were 75 enemy batteries, 300 to 350 guns. Many switch positions made their location and counterbattery difficult. German fliers were few, and only occasionally got observation. At least 30 enemy batteries, including the heaviest naval guns, operated from the area: Spresiano—Cusignano, with flanking fire along the water course, namely on Nervesa—south edge of Montello. A strong enemy artillery group in the area Vidor-Mt. Sulder fired in flank on the Piave to Falzo, and on the German forces advancing on the north side of the Montello. Accordingly, 700 to 750 guns were in opposition to the attack. Machine guns and trench mortars were in bomb-proof positions.

Besides the heavy artillery (eight 30.5 cm. mortars, two 38 cm. howitzers, and four 15 cm. automatic guns) the XXIV Corps had 5 divisional artillery brigades (13th, 17th, 31st, 37th, 41st). This makes 700 guns according to Goiginger, 616 according to Rendulic, and 126 trench mortars (half of them over 22 cm.). The II Corps had 134 light guns to oppose the Italian group Vidor-Mt. Sulder, and support the advance of the north group of the XXIV Corps. A strong artillery echelon of the XVI Corps was to oppose the group Spresiano-Susegana. The antiaircraft batteries were increased from 3 to 8 when the enemy fliers became effective. Machine guns joined in, in the vicinity of the crossings. The artillery direction was in the hands of the artillery general of the Sixth Army. He controlled the artillery observation aeroplanes as well.

The field and mountain guns each had 1,000 rounds of ammunition, the field and mountain howitzers 800, the 15 cm. howitzers 600, the 10.4 guns 400, and the 30.5 cm. mortars 200.

Concerning the grouping and fire distribution of the batteries no details are available. In general, the heavy and part of the medium artillery were put into positions near the river, in order to operate from the same

positions as long as possible. The guns intended for fire against the works on Montello were placed on the river. Batteries to follow to the west bank were behind these. The following division of time was made for the artillery preparation:

3 to 4:10—Gassing of all batteries whose positions are known or suspected, as well as command posts, observation posts, and rest areas.

4:10 to 5:10—Heavy bombardment of breakthrough areas, gassing of antiaircraft batteries and of the area to be broken through.

5:10 to 6:10—Gassing of all occupied batteries, gassing of important points in the attack area.

6:10 to 7:40—Heavy bombardment in the breakthrough area ending with a fire of annihilation. Simultaneous gassing with B grenades of the breakthrough areas. Silencing of enemy artillery. Fire on command posts and observation posts.

7:40—Lifting of artillery fire and breakthrough of 1st wave into the enemy's position.

Trench mortars were to fire on the enemy river positions from 3:10.

There was great difference of opinion as to the time of beginning of the artillery preparation and the time the crossing should commence. The artillery preparation was to start at 3 A.M. and the crossing was to be made at daybreak. The corps command, however, favored a crossing at night, under cover of darkness. This was opposed by the Chief of the General Staff and by the General of Artillery of the Isonzo Army. The proposal of the Sixth Army to commence artillery preparation on the evening of the 14th, and to cross on the night of the 15th, was likewise not approved. Field Marshal Boroevic favored the proposal, and to test it, ordered a crossing by night of the Tagliamento. This showed this method to be correct. In the meantime, the plan of the commander of the Isonzo Army was adhered to, although the general artillery inspector shared the views of the corps commander.

EXECUTION: The commander of the XXIV Corps decided, in spite of everything, to effect a crossing at night during the artillery preparation. A breakthrough resulted on the 15th, to a depth of 5 kilometers. The enemy had heavily garrisoned his front lines and so his casualties were heavy. He seems to have been taken by surprise. His artillery was silenced until 5 o'clock, apparently by gas; then it increased again. His machine guns and trench mortars were attacked, and, in part, put out of action.

Newly arrived batteries whose positions were screened from the air had occupied these. Those who had cover near their positions had moved in on the night of the 15th. The others were moved into the combat zone a day before, and advanced to their positions on the night of the 15th. In the morning the entire valley was covered by a veil of smoke and dust. Therefore, the artillery fired without observation. The poor visibility was an advantage to the troops who were crossing the river. At 6 o'clock the fog rose and observation improved. The artillery was concentrated as a unit for fire on the rear lines of the enemy. A dense barrage preceded the infantry. Accompanying batteries followed as quickly as possible. Communication from one bank to the other was poor, as the telegraph lines were constantly broken. The infantry and artillery aeroplanes gave excellent service until the enemy got superiority in the air. In general, the artillery fire, wherever observation was possible, adapted itself elastically to the infantry advance.

Inasmuch as the XVI Corps could not advance, its artillery was given to the XXIV Corps for the support of the south group of the latter. But when the XVI Corps was moved down the Piave this purpose had to be served by a newly constituted artillery group from the XXIV Corps. On 17 June a shortage of ammunition set in at the XXIV and II Corps. By that time the 17 divisions had used 20,000 rounds of gun and 30,000 rounds of howitzer ammunition. Entirely isolated and surrounded by the enemy, which had advanced in part almost to its artillery positions, the XXIV

Corps remained for seven days on the Montello and withdrew only when ordered to do so. It had not only annihilated almost the entire garrison, but had taken 13,000 prisoners and captured 84 guns, most of which were heavy artillery.

3. The Attack of the VII Corps

The zone of attack was at first 7, later 9 kilometers, in width. The artillery (excepting antiaircraft) had 465 guns (according to another authority, 486 guns), 50 heavy and 236 light trench mortars—all told, 1 to each 13½ meters of front, a very low density. For observation there were available only 3 aeroplanes and 2 balloon companies. There were 4 days of ammunition and 52,000 gas shells on hand, that is only 7½ gas shells per meter.

Artillery assignment:

(a) For the 14th Division the 14th and 44th Field Artillery Brigades with sixty guns, sixty howitzers, twenty-four 15 cm. howitzers, eight 10.4 cm. guns, twenty-four mountain guns, eight mountain howitzers, twenty heavy trench mortars.

(b) For the 24th Infantry Division and ½ of the 9th Cavalry Division the 24th and 4th Field Artillery Brigades and the batteries of the 9th Cavalry Division, with ninety-eight guns, ninety howitzers, thirty-six 15 cm. howitzers, eight 10.4 cm. guns, twenty-four mountain guns, twelve mountain howitzers, thirty heavy trench mortars.

(c) In addition for the entire corps front: four and one-half trench mortar batteries, one 42 cm. howitzer battery, four 30.5 cm. mortar batteries, four 15 cm. automatic gun batteries, 10 antiaircraft batteries.

At the end of April the training for the war of movement had begun. Each battery had been schooled behind the front for 10 days, in conjunction with the infantry, in firing by schedule, overcoming of obstacles and close-in combat, march technique, communications, and munition replacement. It was the plan to outflank the enemy position. The artillery was ready to fire on 12 June. Munitions supply was very difficult, for 5,000 tons had to be amassed in a few days, and neither railroads nor trucks sufficed.

Execution: The first echelon to cross the river started on 15 June at 6:05, that is in broad daylight. As fog and smoke obscured the landscape here, as well, the artillery fired as at night. The enemy artillery soon answered forcefully, and covered the entire stream bed so that the units engaged in crossing suffered heavily. According to prisoners' statements, our artillery fire had only a moral effect, the English gas masks were effective. The machine guns had a greater effect. The attack did not come as a surprise to the enemy. An intercepted artillery telephoné message had revealed it to the enemy. Thus, at 4 o'clock, the enemy was prepared for defense. Some of their batteries had entirely withdrawn from positions, others had withdrawn their personnel only.

By the 19th the line shown in the sketch had been reached. Only supply elements were engaged in crossing the stream. Ammunition supply was especially difficult due to the enemy's deep air reconnaissance which prevailed. On the 23rd the corps was withdrawn to the east bank. It had caused 19,000 casualties, and captured 12,330 men, 28 guns and 281 machine guns.

4. The Attack of the XXIII Corps

(a) Preparation

The XXIII Corps was to prevent the movement of the enemy against our main attack group (XVI, IV, and VII Corps) by an energetic attack on both sides of the railroad in the direction of Mestre. At the same time, the south wing of the army was to be protected by driving the enemy out of the Piave delta at the earliest moment. The army command contemplated, for the first day, a holding of the enemy, and an attack in

force between Musile and Paludello. The corps command, however, decided on a wider zone of attack. Accordingly, one regiment of the 12th Division was to advance north of the railroad; one regiment of the 12th Division and the entire 10th Division to advance between the railroad and Testadura; and the 1st Cavalry Division to advance, several days before the attack, through Testadura on Sile. The part of the 12th Division which was to constitute the corps reserve, as well as the 9th Cavalry Division, was to be put in between the VII and XXIII Corps.

In detail the corps commander required: (a) Artillery preparation from 3:00 to 6:55. Infantry assault at 6:55. (b) The attack to be made by sectors, the flanks to be protected. (c) Attacks which are brought to a halt are to be renewed by a new artillery preparation. (d) Artillery observers and accompanying batteries are to advance to the west bank first of all. (e) Pursuit groups with artillery must keep close contact with the enemy.

The commander of the 10th Division gave the following instructions: (a) 6:55 artillery fire to be lifted from the river positions. (b) At 7:10 artillery fire to be further lifted, and the infantry to gain the narrower bridgehead. If this does not succeed, the artillery fire, on red signal light by a battalion commander, will stay on previous targets and will not be lifted until it is successful (green signal light). (c) After a further artillery preparation of 30 minutes on the road embankment position, that is the further bridgehead, the infantry will assault this position. The artillery barrage will lie ahead of this, with machine gun nests as particular targets. (d) On reaching the day's objectives: Croce—Sperandino—Dubois, the artillery will be advanced to the west bank. (e) General: Assault groups will not wait for each other. The artillery must be able to repel counter-attacks. Continued liaison between artillery and infantry, to each battalion an artillery liaison officer, from each company its own connecting patrol. The command for advance along the entire front will be a salvo by the entire artillery, with fuses set for high elevation.

Initial artillery equipment: In the 32 kilometer front of the corps there were the 10th and 12th infantry divisions as well as the 1st and 4th cavalry divisions—a total of 260 guns, 71 trench mortars, 17 anti-aircraft guns and 4 balloons. Of these, on the Piave Island, 54 guns against 20 to 26 enemy batteries. In the attack sectors, extended for 6 kilometers, there remained 206 guns. This was 1 gun per 30 meters of front and explains the desire of the army commander to have a narrower zone. In the coast area 23 guns of the Triest sector cooperated. Flank and rear fire was extensively used. The 206 guns were formed in a half circle in front of the area Osvalda—Chiesa Nuova and were under the command of the leader of the 10th F.A. Brigade. Munition supply gave 4,000 rounds to each gun, 3,000 to each howitzer, 1,000 to each 15 cm. howitzer, and 500 rounds to each 15 cm. gun and mountain gun. There were available 27,577 gas shells.

In the enemy positions on the banks there were many machine guns and trench mortars in emplacements. The rearward lines had machine gun nests and strong points. A strong enemy artillery group was in position on each side of the railroad. From the lagoon the heaviest artillery was firing. 170 battery switch positions were identified. The enemy was still withdrawing artillery on 14 June.

On 26 May the Italians had pushed forward into the delta of the Piave. Thereby the 1st Cavalry Division had suffered such great casualties that, on 15 June, they had but one regiment to participate in the attack Testadura—Sile. By 13 June our artillery had completed its issue of ammunition. On the 14th the enemy was noticeably quiet.

(b) The course of the attack

15 June—In spite of thick fog the artillery preparation proceeded as planned.

Details: 3 to 4:10 gassing of firing and other batteries which had been located. Until 4:25 fire of annihilation on the road embankment position. Until 4:55 fire of demolition on the river positions and on the second line in rear; until 5:10 fire only on the latter; until 5:25 fire on both; until 5:55 renewed fire on and gassing of batteries. Until 6:35 gassing of the breakthrough positions, then lifting of fire to the positions between the railroad and Noventa (demonstration point). Until 6:55 fire of annihilation on the river positions. 6:55 advance of the first echelon to cross, and lifting of the artillery fire at the same time to the second line until 7:08. Until 7:18 artillery fire on this line and the road embankment. Until 7:55 artillery fire on the road alone. At 7:55 standing barrage beyond this line.

During all this time the river positions between Testadura and Chiesa Nuova were subjected to a weaker fire. The guns in the lagoon, as well as those at Mealo, were not taken under fire because there were no long range weapons available. 10.4 cm. and 15 cm. guns operated against distant targets and balloons. The trench mortars had excellent results against the river positions. Batteries were to cross with the Infantry. Aerial observation was very faulty, due to enemy air superiority.

The first echelons crossed almost without casualties. The 10th division, at about 1 o'clock, in spite of considerable resistance, reached the day's objective, and in the afternoon advanced still farther. The 12th division developed opposite Fossalta—Croce. The 1st Cavalry Division advanced close to Sile. The enemy artillery fire, which had begun shortly after 3 o'clock, was increased, and lasted throughout the day without a break. Our bridges were fired on by aid of aerial observation, and bombed from the air. The enemy's air operations became intensified. During the night the Italians finally evacuated the bridgehead at Bressanin.

16 TO 20 JUNE. 16 JUNE: In the early hours we took Sile. Following the 12th Division, five guns, six howitzers, 1 mountain gun, one 15 cm. howitzer, and two mortar batteries of the 9th Cavalry Division and the VII Corps went into positions. The artillery on the Piave island was reinforced by 17 batteries, with 82 guns. The 9th Cavalry Division pushed in next to the 12th Infantry Division on the north. Back of the 12th Division, the 57th Division assembled for attack. It was to go in to the right, to connect with the VII Corps. Its artillery (46 guns) arrived east of Noventa. By evening the corps had available more than 400 guns. The batteries of the 10th and 12th Divisions and 9th Cavalry Division, which had been ordered to advance to the west bank, commenced the march early on the 16th. They ran into enemy fire, and, inasmuch as the bridgehead had been demolished, did not arrive at their designated positions until the morning of the 17th.

17 JUNE: On the west bank there were firing 23 batteries (118 guns). The 46th Division pushed in between the 12th and 10th along the railroad (still without artillery). On the north wing of the corps the heavy artillery group of the IV Corps cooperated, as did the group on the south in the Triest sector. Three antiaircraft batteries arrived.

18 TO 20 JUNE: The attempted capture of the Piave Island did not succeed; in fact the enemy gained ground there. Flood conditions demolished the bridges. Enemy counterattacks were intensified. Our attack had reached its high point. On the Piave Island the Orient Corps (4 battalions) was brought up.

21 JUNE TO 6 JULY: On 21 June our attack was ordered stopped. Preparations began for the withdrawal. During the night of the 22nd all the artillery withdrew to the east bank. During the day withdrawal by sector. The enemy followed and attacked. Especially on the island, heavy fighting ensued. The 58th Division, 48th F.A. Brigade, and two heavy artillery regiments with 140 guns, were sent there as reinforcements. Furthermore, the 92 guns of the 46th Division came northeast of Noventa to join, so that the corps had available, more than 500 guns. Nevertheless,

the enemy counterattack was overpowering. On the night of the 24th the withdrawal was completed. On the west bank there remained occupied only the road embankment position to Sile, and the central position on the island. 179 officers and 7,280 men were captured by us. By 2 July we had reinforced the artillery on the island to 37 batteries. In the defense the 15 to 20 batteries of the north sector and the artillery of the Triest sector participated. Little by little the 57th, 58th, and 46th Divisions, as well as the 14th Division, were brought up next to the 1st Cavalry Division and the 201st Landsturm Brigade.

During the night of 6 July the island was completely evacuated. There, east of the Piave, 51 batteries were ready for defense. In this the 20 batteries on the north and the artillery of the Trieste sector could participate. Our offensive ended at the XXIII Corps, with the loss of the Piave Island, although it had finally used 5½ infantry and 2 cavalry divisions with about 640 guns.

GENERAL: The troops were everywhere steadfast. Transportation across the Piave was often interrupted, the supply was difficult due to the demolition of the bridges. INFORMATION FROM PRISONERS: The time of our attack was known, hence the front lines and endangered battery positions were early evacuated. In the fortifications only the machine gun positions were of concrete; the rest, earth works. Our artillery did little damage, but they feared machine guns. Counterattacks were made for the most part by entire battalions. Their morale was low before the attack, but improved afterwards. They had plenty of replacements for casualties. Fresh troops were available. The strong enemy artillery had great quantities of ammunition at all times.

(c) CONCLUSIONS

1. Which attack areas were the most favorable for a breakthrough from an artillery standpoint? This question is asked apart from any strategic considerations. There were six areas in question. (Note: These are given in notes in the article.)

2. Summary: If 25 to 30 divisions (4,000 guns, 4 million rounds, including ½ million gas shells, 500 to 700 trench mortars, 5,000 to 7,000 machine guns) and the major part of the air corps had been launched on the 40 kilometer Brenta—Nervesa front, as a unit, this would have been an attack density which could have made possible a breakthrough to the line: Bassano—Montello before the enemy reserves could have been called in. This would have been one division to 1½ kilometers, a gun to every 10 meters, a machine gun to every 7 meters and 100 rounds to each meter of front. With a quick breakthrough the push could have been carried beyond the Brenta, and the Piave position would have been overwhelmed.

GRÜNDEL, Obrstlt.—**Attack and defense.** [Angriff und abwehr.](Militär-Wochenblatt, 25 June 1932.) Abstracted by Major A. Vollmer

There is an increase of opinions such as Col. Loizeau's (Revue d'Infanterie for Jan. 1, 1932) that "in the future attack can succeed only with gas bombardment and masses of tanks." Similar skepticism as to the attack, as the strongest form of combat, was already rife during the World War. The criticisms arose from the German offensives of 1918, the most carefully prepared of any that German troops have ever been engaged in. They began with the great battle in France. "For each kilometer of front there were 20 to 30 German batteries (an average of 100 guns) not including trench mortars. There was a German superiority of 25 to 30 divisions on the West Front. The comparative combat strength bespoke a success" (Gen. Ludendorff "My War Experiences"). But there was no strategic success in spite of numerical superiority, high morale, and excellent training. Why this failure, in view of Tannenberg and Gorlice, and the successful attacks of Frederick the Great's time?

There had, in fact, been a great change in the two forms of combat. A chief factor—the improvement in firearms—was appreciated by Field Marshal Moltke in 1861. He wrote: "The attack of a position has essentially become more difficult than the defense." The sentence ends ". . . the defensive during the first phases of a combat is a decisive advantage."

At the beginning of the World War and until Gorlice, machine guns were few. For a long time the Germans had had superiority in heavy army artillery. Trench mortars had not yet been introduced. In spite of the increase in artillery the proportion of guns to combatants had not increased much. (In Frederick the Great's battles there were on the average 3½, in exceptional cases 7 cannons to 1,000 combatants, as e.g., in the battle of Torgau.) Moreover the attacks resulted usually from meeting engagements, so that a planned defense had not evolved. Conclusions had not yet been drawn from the outstanding results of the defensive on the East Front. There, weak German forces, with properly utilized machine gun fire, had caused attacks (such as Brussilov's in 1916) to break down.

Since that time, however, on the West Front the number of machine guns and guns had increased tremendously. At Tannenberg the Germans had had 4.7 guns to each 1,000 combatants; the Russians 3.3 guns (according to another authority respectively 2.9 and 2.1), while there were hardly 1½ machine guns for this number of combatants. But in the great battle the attacker was greeted by 11 to 12 guns, 4 to 6 trench mortars, and 14 to 15 machine guns to each 1,000 combatants.

To be sure, the improvement and increase in numbers of the fire arms had increased the combat strength of the attacker. He was also less vulnerable, due to machine gun and portable infantry shields and steel helmets.

So one could believe that this would result again in success by attack, e.g., at the end of 1917. At that time occurred the British attack of November 20, 1917 at Cambrai. On a front of 10 kilometers they not only succeeded in breaking through for a depth of 10 kilometers but "we would not have succeeded in stopping this breakthrough if the British Commander had exploited it" (Ludendorff).

Is the success of this attack to be attributed then to the improvement and increase of firearms and the shelter of armor? We know that the heavy infantry shields had long ago been abandoned, that the steel helmet was only fully effective in the trench, that machine guns were effective in attack, in spite of, and not because of, the shields. The advancing artillery barrage was a two edged sword of the breakthrough, and not to be compared in effectiveness with the blockade barrage of the defensive. What then occasioned this success?—500 tanks had decided this "tank battle." The defensive had secured a great advantage in the improvement of firearms, but this had been overcome by the Allies by not relying solely on the slowly moving and vulnerable infantryman to carry the fire and shock to the enemy. They had created an almost invulnerable mobile machine of attack which could "carry the fire" and possessed moreover considerable shock power.

We know how, since then, the effectiveness of tanks has been increased. We must also bear in mind how the combat aviation aided the tank squadrons by fire in the battle of the Somme. We must realize how they strive today in creating attack aeroplanes with shock power.

If we will recall that in 1918 we had only 15 tanks (besides 75 captured tanks) and did not value them as decisive factors, then it becomes plain why the attack could no longer be considered our strongest form of combat.

The author of this article concludes that the present German regulations (conduct and combat of the combined arms) should countenance the employment of the defensive as a salient form of combat, as did those in effect during the World War. In Tannenberg he sees an example of the

efficacy of the defensive. There the victory of the 3 days of attack by the entire Eighth Army was made possible only by the previous 4 days of defense by the reinforced XX Army Corps. Otherwise, the Narew Army would not have been beaten because the Njemen Army would have intervened. There the defensive was relied on and chosen, by the German leaders; they were not forced thereto by circumstances.

LEPPA, Konrad.—**Cavalry Concentrations.** [Der Aufmarsch der Reiterei.] (Wissen und Wehr, April 1932.) Translated by Major A. Vollmer

"The cavalry is the weapon of movement and great decisions; its predominance in the ordinary situation is therefore important for operations in extensive areas, movements on a large scale, and when great decisive blows are intended." Carl von Clausewitz "On War," Book V, Chapter 4.

1.

In August 1914 the German forces advanced against the French and Belgian frontiers with seven armies. The theater of operations included the entire German frontier from Krefeld to the Swiss border. Within these seven armies there were ten cavalry divisions in readiness for the march.

In front of the First German Army the 2d Cavalry Division was assembling with a strength of 24 squadrons and 3 horse artillery batteries. Back of the First Army were 20 squadrons of divisional cavalry, 2 Jäger battalions and two cyclist companies.

In the area of the Second Army there were assembling the 4th Cavalry Division south of Aix, and the 9th Cavalry Division at Malmedy. These comprised 48 squadrons and 6 horse batteries. The Commander of the II Cavalry Corps was to have command of these two divisions and of the cavalry division of the First Army. His cavalry corps attained a strength of 72 squadrons and 9 horse batteries. The divisional cavalry of the Second Army, however, comprised 26 squadrons. In addition there were 5 Jäger battalions and an equal number of cyclist companies.

In front of the Third Army there was no army cavalry. Its divisional cavalry was 22 squadrons strong. Its organization included 3 Jäger battalions with their cyclist companies.

The Fourth Army had in front of it the I Cavalry Corps, with the Guard and 5th Cavalry Divisions, former at Wilz, latter at Mersch in Luxemburg. The I Cavalry Corps attained a strength of 48 squadrons and 6 horse batteries. The Fourth Army had 24 squadrons of divisional cavalry but only one Jäger battalion with cyclist company.

In front of the Fifth Army also there was assembling a cavalry corps. Here the IV Cavalry Corps included the 3d Cavalry Division at Esch and the 6th Cavalry Division at Diedenhofen. Total strength of IV Cavalry Corps: 48 squadrons and 6 horse batteries. The divisional cavalry of the Fifth Army amounted to 24 squadrons. It had but one Jäger battalion with cyclist company.

Even the Sixth Army in Lorraine could count on a cavalry corps. In its front was the III Cavalry Corps with the Bavarian cavalry division at Medewich, the 8th Cavalry Division at Chateau Salins, and the 7th Cavalry Division at Saarburg. The III Cavalry Corps contained 72 squadrons and 9 horse batteries. The divisional cavalry of the Sixth Army had 32 squadrons and two Jäger battalions with cyclist companies.

The Seventh Army could not count on the support of any army cavalry. It had only 16 squadrons of divisional cavalry and 2 Jäger battalions with cyclist companies.

After complete mobilization the German forces on the west front had 240 squadrons and 30 horse batteries of army cavalry, 164 squadrons of active divisional cavalry, and 16 Jäger battalions with an equal number of cyclist companies; of these there were in front of the right decision

wing of the forces (First, Second, and Third Armies) 72 squadrons and 9 batteries in the II Cavalry Corps. In front of the middle of the forces (Fourth and Fifth Armies) there were 96 squadrons and 12 batteries. Before the left wing, whose mission was to cover the flank of the forces in the crown lands, there were 72 squadrons and 9 batteries in front of the Sixth and Seventh Armies. Of the Jägers and cyclists, intended for accompanying the cavalry corps, there were 10 battalions in the right wing of the forces, 2 in the middle, and 4 in the left wing. The divisional cavalry with the ten army corps on the right wing numbered 68 squadrons; there were 48 squadrons of divisional cavalry with the six army corps in the middle; and with the six army corps on the left wing there were 48 squadrons.

When the army cavalry commenced the advance, which was soon taken up by the entire force, the 2d Cavalry Division remained in front of the First Army; the II Cavalry Corps with the 4th and 7th Cavalry Divisions, pushed in front of the Second Army; and the I Cavalry Corps with the Guard and 5th Cavalry Divisions advanced in front of the Third Army. The IV Cavalry Corps remained in front of the middle of the forces, the III Cavalry Corps in front of the left wing.

In the battles of the frontiers the II Cavalry Corps (with 2d, 4th, and 9th Cavalry Divisions assembled) reached the extreme left wing of the forces but the I Cavalry Corps (with both divisions) remained behind the Second and Third Armies. The IV Cavalry Corps was wedged between the Fourth and Fifth Armies. It served as security for the left flank of the latter. The III Cavalry Corps had difficulty in bringing its three divisions to bear. The foot troops blocked the roads.

Things were even worse in the battle of the Marne. On the free wing on the right of the First Army the only security was the 4th Cavalry Division. In the gap between the First and Second Armies were four cavalry divisions of the I and II Cavalry Corps. In the center the IV Cavalry Corps was in position among the foot troops without being able to accomplish anything. It was the same in Lorraine with the III Cavalry Corps. It found no room for mounted action and attack.

Thus, in the decisive battle of the western war theater, the German cavalry was as good as non-existent. It had to content itself by fighting in the combat lines, or by being used for secondary purposes. Thus it was left out of the decisive operations. Its first mission, participation in battle and in decisive combat, was lost to it due to the measures taken by the high command. 24 squadrons, one Jäger Battalion and 3 batteries covered the right flank of the forces. 96 squadrons, 6 Jäger Battalions, 6 cyclist companies, 12 horse batteries afforded security on the Marne. 48 squadrons, 2 Jäger Battalions, 2 cyclist companies and 6 batteries remained in the center, useless for mounted missions because no room or opportunity was afforded for mounted combat. 72 squadrons, 2 Jäger Battalions and 9 batteries had the same fate in the crown lands. 3 Jäger Battalions with a like number of cyclist companies fought with the Third Army far from the army cavalry to which they belonged. Two other battalions with their cyclist companies were stuck in the Wasgen forest.

Of 10 cavalry divisions with 240 squadrons, 16 Jäger battalions, 16 cyclist companies, and 30 horse batteries there fought in the battle of the Marne only one tenth of the cavalry and artillery, one sixteenth of the Jägers and cyclists—and this in the decisive area, the right wing of the forces, the open flank of the First Army.

How did this come about? It resulted chiefly from the misguided concentration of the cavalry.

The German high command was determined to conduct the campaign in the west by an offensive in a great encirclement through France and Belgium, whereby the decision would result through the action of the right wing of the forces. This wing could never be strong enough. It should have had the bulk of the German cavalry with it. It was only at this point

that there was afforded the room for mounted action. Here the cavalry could have contributed to the decision, and the winning of the victory in the west. So, not only the terrain, but the principle of mass, required its location at this point.

This requisite—the unification of the cavalry on the right wing of the forces—was, however, rendered impossible by the great concentration marches. The peculiarity of the cavalry forbids a unification during concentration. The powers of man and beast must be conserved. Thus the cavalry has to be considered even in the concentration. So was the situation in 1914.

The entire army cavalry with its ten divisions, reinforced by the Jäger battalions and cyclist companies, belonged for concentration in the area of the right wing (First, Second, Third Armies). Here there would have been assembled a mounted combat power which would have pushed relentlessly and by surprise through Belgium towards France. This cavalry army, so far as possible under the unified command of the Commander of the II Cavalry Corps, with three cavalry corps with ten divisions, would have been more able to hold the Belgians from Antwerp; and, supported by the First Army, to have beaten them, than were the two weak cavalry divisions, in August 1914. But, also, in the battles of the frontiers this cavalry army, if only half way decisively and carefully led, would have insured the decision and the victory. Far advanced ahead of the First Army, it could have struck the British Army at Mons deep into the uncovered flank and rear. It could have worked around the back of the French Fifth Army, especially if the German leader had decided to attach heavy long range artillery to it in the form of a 10 cm. cannon battalion. Troopers, Jäger, cyclists and heavy artillerymen could in this way, if well led, have brought about a German victory in the battles of the frontiers. The danger that they would not participate, as it actually happened in 1914, would have been obviated so far as humanly possible. The fear of British intervention on the exposed flank would also have been more easily laid if ten cavalry divisions, instead of two, had been available. If it had been desired to advance one division towards the Franco-Belgian coast, as protection against the British, then there would still have been 9 divisions available for the combat, as well as for the great pursuit after the frontier battles. This pursuit, with all divisions participating, would have caused the left enemy wing to break down if the battle had not effected this. A defense on the Aisne would have been impossible for the enemy. It would have been the same for the Marne. He could have defended on the Seine. But here, too, the cavalry army would have done its part. It would have encircled Paris and attacked the enemy in rear, and disturbed its rearward communications; and it would thus have contributed substantially to this last and decisive battle against the Franco-British.

But, in the battle of the Marne also, a cavalry army was needed by the Germans on the right wing. Ten cavalry divisions would have reconnoitered more extensively than one. Ten divisions would have furnished better and more information of the enemy than one; and ten divisions would more easily have kept the French Sixth Army from the battle than one weak division in 1914.

The battle of the Marne impends. The cavalry army on the German right wing, deeply echeloned, undertakes the security of the flank against Paris, while it covers the flank of the attack southwest by the German First Army. When the news comes of the advance of the French Sixth Army then the supreme commander of the cavalry army advances his corps and divisions from all sides against the advancing enemy. He stops him, he holds him, he strikes him severely and by surprise. He thus makes possible the attack of the First Army against the main enemy forces. Thereby he contributes to the victory on the Marne.

But even in the situation on 9 September 1914 the German right wing needed a strong force of cavalry.

It will be remembered that the III and IV Cavalry Corps advance with the right wing. The four divisions of the I and II Cavalry Corps may be able to block the gap between the First and Second Armies, but the III and IV Cavalry Corps with six divisions, together with the group "Quast," break into and hit in flank the French Sixth Army on the Ourcq, strike it in rear, destroy it, pursue it to the walls of Paris and beyond. That would have been a German victory such as Rossbach.

But all of these mounted victories would have been possible only if in 1914 the cavalry had already been concentrated on the right wing. But it was scattered all along the line; even Jäger and cyclists, then so essential to the cavalry, were scattered. The mistakes of mobilization are felt to the end of the campaign, and this is true of the cavalry as well.

Would it have been possible, however, to strip the other armies of their cavalry? Not only possible but practicable. If the mission required the unification of the cavalry on the right wing this was facilitated by the situation in the center and left wing. In Lorraine the restricted area between the Wasgenwald and the fortresses on either side forbade the use of any considerable mounted force. The cavalry could never be effective here. The situation was similar in the center. Soon the opponents would have to lie close opposite each other. The army corps pushed the mounted troops out of the line. Cavalry was necessary here only during the advance to battle. For this the divisional cavalry sufficed (of a strength of 8 squadrons with these armies). The Supreme Command left to the particular use of the Corps the cavalry brigade headquarters whose regiments at mobilization had become divisional cavalry. The Corps or Army Headquarters could thus form cavalry groups in their areas for reconnaissance or undertakings of great magnitude, while they assembled the divisional cavalry regiments reinforced by one or two batteries and cyclists. The divisions could each be left with a squadron for their use. These mounted groups fully sufficed for reconnaissance during the advance to battle and for service during battle. Gaps for employment of large mounted bodies seldom occurred. They could always be covered by these mounted groups. The main body of cavalry would however be left intact on the decisive wing. For its reinforcement the cavalry groups of the corps on the right wing could be used. Even though the divisional cavalry there amounted to only 6 squadrons for the corps, still reinforcements from same for the cavalry army could be spared.

Finally it was still possible in the German armies to reinforce the cavalry to the extent of leaving only one cavalry regiment to an army corps as divisional cavalry. Two squadrons sufficed for the division. The west army alone could spare 16 cavalry regiments. This would mean almost 3 cavalry divisions. There were enough staffs if those of the brigades, freed by the mobilization, were used, instead of sending them to the Landwehr. There was enough horse artillery before the war. Unfortunately this was changed to field artillery.

"Small causes—great effects!" The mistakes in the mobilization of the cavalry, however secondary this may have been in comparison with the general mobilization, resulted, in 1914 in Belgium and France, in the Belgians reaching Antwerp, in the fact that the frontier battles did not have the expected success, and in the failure to succeed in the battle of the Marne.

When the Franco-British-Belgian Army mobilized in August 1914, their cavalry was disposed as follows: the 8th Cavalry Division assembled at the Belfort Group, the 6th Cavalry Division at the First Army, the 2d and 10th Cavalry Divisions at the Second Army, the 7th Cavalry Division at the Third Army, the 9th Cavalry Division at the Fourth Army, the 4th Cavalry Division at the Fifth Army while the 1st, 3d, and 5th Cavalry Divisions combined at Sedan as the "Cavalry Corps Sordet." The Belgian cavalry division operated between Liege and Brussels; the British cavalry division with the attached 5th Cavalry Brigade east of Maubeuge.

In the right wing group of the Allied armies there were 24 squadrons of army cavalry with the right wing (First & Second Armies including Belfort Group); opposite the German crown lands a total of 88 squadrons; in the center 48 squadrons, and on the left wing, including the British, 69 squadrons. Pushed forward were two groups of 72 and 16 squadrons in front of the Allied forces. The divisional cavalry of the French corps consisted of only one regiment of 6 squadrons; one squadron was with the British infantry division and one regiment of four squadrons with the Belgian division. The French cavalry division (excepting the 10th cavalry division which consisted of 10 squadrons) comprised 24 squadrons and 3 batteries; the British cavalry division comprised 36 squadrons and 4 batteries (24 guns); and the Belgian cavalry division comprised 16 squadrons and 3 batteries. The cyclists were likewise divided into one half battalion per French division. The Belgians had an entire battalion; the British had no cyclists.

During the summer campaign of 1914 the advanced Sordet Corps wore itself out by marching without accomplishing anything. The Belgian division, weakened by reinforcing the divisional cavalry, withdrew, after a number of battles, to Antwerp. The cavalry divisions of the other armies did not come into evidence due to their numerical weakness and the situation unfavorable for mounted action. If they served well, as for example the British, in withdrawal actions, this was a great deal, but not enough to successfully cooperate in the frontier battles.

Here also the mistakes in concentration of the cavalry dissipated its forces all along the line. Only in two groups was there any massing of cavalry: opposite the crown lands, that is to say in a highly unfavorable locality, and at Sedan, too far from their own forces. The Allied armies went through the battle of the Marne and still the cavalry had not contributed effectively in the frontier battles. Here, too, the mistakes of mobilization revenge themselves. If war requires the unification of combat forces for decisive operation in a promising direction, this is true also of the cavalry.

The French leader should have had but one purpose in mind concerning his cavalry—the concentration of its main force on the left wing. Perhaps an advance of strong cavalry forces through Alsace across the Rhine to South Germany might be tempting, and if carried out with several divisions might be successful, but this would not further the decision, because it would take forces away from the decisive point, the left wing. At that point the French cavalry belonged. There, with 232 squadrons strong, it could be reinforced by 45 additional British squadrons from Maubeuge. The Belgians, as well, who could have been brought to adequate strength by accessions from the divisional cavalry, could have reinforced this cavalry army. A favorable assembly area was Maubeuge—Lille—Antwerp. From thence they could have hit the Germans in flank, delayed them, and forced the attacking armies to withdraw. Then they would have been favorably situated for pursuit from north of Brussels through Liege to Aix.

In the battle of the Marne also a strong cavalry army might have had success on the Ourcq and even operated decisively. The German First Army fights hard with the French Sixth Army. Only a weak cavalry division protects its flank. Then eleven Franco-British cavalry divisions, reinforced by foot troops on motor trucks, break out against the flank of the First German Army. Villers-Cotterets—Soissons—La Fere are reached, for only Landwehr and supply troops offer resistance, and the ride goes on to Reims to victory.

The leader of the Allies—the leadership of the three armies—was modest. He did not envisage a complete success. He did not venture an entire stroke. Half measures were adopted. He preferred that the 2d and 6th Cavalry Divisions (48 squadrons) with the Second Army, the 7th Cavalry Division (24 squadrons) with the Third Army, the 9th Cavalry

Division with the Ninth Army lie inactive during the battle of the Marne or be used for missions which were better suited to mixed detachments of all arms. He preferred that the British cavalry division and the Cavalry Corps Conneau with the 4th, 8th, and 10th Cavalry Divisions remain in inactivity. It sufficed for him that the 5th Cavalry Division make a weak encirclement of the outer wing of the First German Army, instead of a move in force of at least ten divisions. Thereby he brought about an adverse opinion on himself and his leadership in the battle of the Marne.

But the leadership of the Allies did not understand how to unite for decision, and still less did it understand how to utilize a strong force of cavalry. Therefore 8 cavalry divisions were assigned to the seven Allied Armies, and therefore 4 others were advanced separately ahead. Thus no great victory could be won. He who scatters his forces, and dissipates his cavalry, robs himself of victory.

2.

The German Eighth Army had in East Prussia, at the beginning of the War of 1914, only the 1st Cavalry Division with 24 squadrons and 3 horse batteries. There were also available 2 Jäger battalions and their cyclist companies. The 1st Cavalry Division assembled on the north wing of the Eighth Army. This was the decisive wing up to the battle of Gumbinnen. The division could have been brought to a strength of 36 squadrons through reinforcement by the 2 Jäger battalions and the 2 cavalry regiments of the 3 army corps. The Eighth Army command however, contented itself with the addition of the 2nd Jäger Battalion. Thus it was that, at the critical moment during the battle of Gumbinnen, it lacked the necessary strength. Its operations against the flank of the First Russian Army promised much.

The Russians did no better. They had a Cavalry Corps on the north wing of the First Army, consisting of the 1st and 2d Guard Cavalry Divisions and 2d and 3d Cavalry Divisions and 1st Cavalry Brigade. The left wing was to be accompanied by the 1st Cavalry Division, with its 24 squadrons and 12 guns. The Russians thus had the strongest cavalry corps of any nation in the beginning of the World War. But their army corps had no divisional cavalry. These were still to be furnished by the Cossacks of the 2d or 3rd levies. So they had to be supplied from the army cavalry. Instead of strengthening they weakened the army cavalry. In their Second Army, as well, the cavalry assembled on both flanks. The right was protected by the 4th Cavalry Division; the left by the 6th and 15th (48 squadrons). Here too the cavalry force was weakened by supplying divisional cavalry.

The Russians attacked with this grouping of their forces. The cavalry corps of the First Army did not advance far. At Gumbinnen, in spite of its strength, it accomplished nothing except that it remained a threat. Soon, however, it came to a stop at the fortress of Konigsberg. The 1st and 4th Cavalry Divisions, having advanced separately, had no success. Likewise, before and during the battle of Tannenberg, the 6th and 15th Cavalry Divisions accomplished nothing.

Besides the weak leadership of the Russian Cavalry, its chief weakness lay in the misguided concentration thereof. Eight and one-half cavalry divisions encircled East Prussia's frontier from the Memel to the Vistula. At Memel there were more squadrons than in all the rest of the Russian forces. But here there was no opportunity for mounted action. Königsberg and the Deime and Pregel positions lay in the way. The Cavalry Corps of the First Army belonged on the left wing of the Second Army. Here should have been concentrated the mobility and firepower of all the eight divisions. The 1st Cavalry Brigade sufficed for the protection of the right flank of the First Army and for action between Memel and the Pregel and Deime. The cavalry army with its eight divisions (192 squadrons, 96 guns) belonged west of the Second Army. Here there were opportunities

for maneuver, through Allenstein—German Eylau to the north, cutting off the Eighth Army from its supply, cutting of its communications, obstructing of roads and railroads from the Vistula to Königsberg, cooperation with the advancing First Army, delaying actions against the Germans who were withdrawing from in front of the First Russian Army, etc. In this way the Russian cavalry army could have contributed to a decisive success, rather than scattering its strength.

Opposed to the armies of the Central Powers in Galicia and Poland, the Russians had considerable cavalry forces. In front of the Fourth Army were the 8th and 13th Cavalry Divisions, the 3rd Don Cossack Division, and the Guard Cavalry Brigade. The Fifth Army had in front of it, the 7th and a composite cavalry division and the 1st Don Cossack Division. The Third Army had the 9th, 10th, and 11th Cavalry Divisions while the Eighth Army had the 12th Cavalry Division and the 2d Cossack Division. Between the upper and lower Vistula the 5th Caucasus and 14th Cavalry Divisions were affording protection at Plotzk, Lodz, and Ivangorod.

About seven cavalry divisions arrived later, one at the Third Army, one at the Fourth Army, two at the Fifth Army, and three at the Eighth Army. The divisions each have 24 squadrons and 12 guns, except the composite divisions which lack artillery. But here, as well, the army cavalry had to supply divisional cavalry so that it fell to one quarter of its strength.

Eighteen and one-half cavalry divisions were on the Russian southwest front, three others between the upper and lower Vistula. But they accomplished nothing of a decisive nature. During the frontier battles they secured the flanks of their respective armies and screened the advance, but that was all. Even in the battle at Rawa-Ruska—Lemberg they accomplished very little. An opportunity arose for a successful cavalry intervention in the gap between the Fourth and First Armies of the central powers, but only the weak cavalry corps Dragomirov (2½ divisions) was available. The right flank of the Austro-German armies between the Dniestre and Carpathians lay open. Only three weak cavalry divisions covered the broad area between the river and the mountains. But only a weak cavalry force was brought up by the Russians. Things were even worse west of the Vistula. Here was only the 14th Russian Cavalry Division, maneuvering aimlessly in front of Ivangorod; and two divisions remained impotent at Posen and Schliesien. A promising field for mounted action was offered here, but the necessary strong cavalry army did not exist. Most of the divisions were close behind the infantry—no more or less than divisional cavalry. Great opportunities were here for action, but for the cavalry they were lost opportunities.

Here also there was no understanding on the part of the leaders as to decisive use of cavalry. They scattered its forces. The purpose of the Russian Army direction, to push the enemy from Krakau and the Carpathians and prepare a "Cannae" for the enemy, was not achieved because it was no longer possible, after the ineffective concentration of 1914.

Of the 21½ cavalry divisions, organized in 7 corps, the Russians should have allotted at least 4 corps for the attack west of the Vistula in a southerly direction. One cavalry corps would have protected the right flank of this cavalry army up to the lower Vistula, but participation in battle would be the main mission even for this corps, instead of security. Thus, almost 15 cavalry divisions would have advanced against the rear communications of the Austro-German armies between Przemysl and Krakau. Weak screens would have been brushed aside, roads and railroads in west Galicia would have been demolished, and then the entire force would have crossed the San. It would have been advantageous if one or both of the remaining cavalry corps had aided the advance of this cavalry army, by advancing east of the Vistula on the right wing of the Fourth Army. In this way it would have aided the cavalry army in building the bridgeheads on the San, as well as affording security for the Fourth Army.

Of the fortresses, only at Przemysl were both banks of the San entrenched. Consequently, a crossing of the San by the cavalry army was not as difficult as might be supposed. The cavalry army would now cause much fear and disturbance in East Galicia behind the Austro-German Army. The effect of a westward encirclement of the Austro-German Army could have been increased if a weaker army of six cavalry divisions had advanced on both sides of the Dniester and pushed the enemy away from the Carpathians. Thus there would have resulted a "Cannae" on the Dniester and San, with Cossacks instead of Numidian horsemen.

Most of the army leaders in the World War, however, including the Russians, were satisfied with ordinary and mediocre decisions. They avoided the unusual. So here they passed up the chance of intervening with a cavalry force superior to the enemy in strength in an area where marked success was possible.

But the Austro-German Army, as well, did not see in the cavalry a combat weapon, a weapon of decision and victory.

In Galicia east of the San, at the outset, were ten Austro-German cavalry divisions, one next to the other. An eleventh division moved against West Poland. Eventually there were between the Dniester and Bug, the 1st, 5th, 8th, 4th, 11th, and 2d Cavalry Divisions, in that order, and between the Bug and the Vistula, the 10th, 6th, 9th, and 3d Cavalry Divisions. In West Poland the 7th Division was advancing toward the Vistula. The cavalry was scattered along the line. While the Austro-German Armies were engaged in the frontier battles the cavalry divisions were used as flank protection. Just as a strong cavalry force was lacking on the left wing of the First Army, so likewise was one lacking in the battle of Komarov in the Fourth Army. When, finally, in the battle of Rawa-Ruska—Lemberg the 2d, 4th, 6th, 9th, and 11th Cavalry Divisions were unified on the threatened wing of the Fourth Army, this was not done to enable a large cavalry force to co-operate. It was done to give the army security in flank and rear. There were eleven cavalry divisions available but they never appeared in any stronger combination than two. The first concentrations caused the scattering of the cavalry. This had a detrimental effect up to the battle of Lemberg.

The Austro-German Army command planned to throw back and defeat the Russians in a right envelopment, between the Vistula and Bug, by their First and Fourth Armies. In this the First Army had the decisive rôle. At this point belonged the main cavalry force, of at least 6 to 7 divisions. Unified, under energetic leadership, it could have cooperated with the First Army to defeat the Russian Fourth Army in the battle of Krasnik. This cavalry force would have been able to cut the rearwards communications of the enemy, break his contact with Ivangorod, and attack him in rear, to bring about an envelopment, in cooperation with the First Army. Then it would have advanced farther against the enemy opposing the Fourth Army, and dealt with him in like fashion. In short: a great, arduous, but withal useful and heartening activity for a brave mounted force. The remaining five divisions would have been engaged in screening and delaying actions against a superior enemy in East Galicia, contributing to success, if only by defense. Forces would be saved for the decisive attack in the north. But as soon as the east army occupied the position: Lemberg—Mikalajow then these five divisions would have been assembled north of Lemberg to attack the Russians in flank so as to initiate, and aid the Fourth Army, in its envelopment. In the battle beginning to rage at Lemberg, the strong and energetic cavalry army would have been used on the flank of the Fourth Army which attacked the Russians from the north. A swarm of cavalry would have hit the Russians in flank and rear. There would have been much to do, but also much success and victory. Even in the battle of Lemberg—Rawa Ruska 1914, a cavalry army in support of the attack of the Fourth Army could have accomplished much of a decisive nature on the enemy's flanks. But it was

preferred that each army keep its cavalry division. The cavalry was dealt with just as elsewhere in the World War and its forces were scattered.

3.

The great army concentrations in 1914 made impossible suitable employment of cavalry. In the west and in the east, cavalry division next to cavalry division trotted towards the enemy. Nowhere was there a massing of a superior cavalry strength of several cavalry corps in a critical battle area. Nowhere, neither in Belgium, France, Galicia or Poland, was there a cavalry army riding to victory. Instead of cavalry armies there were only separate divisions and weak corps. Why was this? One had forgotten how to think of cavalry in terms of masses, as known to Frederick the Great and Napoleon. One thought in terms of divisions and forgot that the corps is the great unit of the cavalry. Frederick and Napoleon had dealt only with the latter unit. It had gone so far that in peace time no cavalry corps was formed and the cavalry was tied to the infantry. It was even forgotten that cavalry corps staffs should be created at mobilization to lead the cavalry in the concentrations. This was so in Russia, Austro-Hungary and France. Massing of cavalry forces, as well as leadership for them, were both neglected. All of this oversight revenged itself. There was contempt for a strong cavalry force; it was considered superfluous, kept away from the battlefield, and used up in consuming reconnaissance. These mistaken doctrines resulted in ill conceived concentrations of the cavalry, and these in turn resulted in their scattering during battle. The German regulations "Führung und gefecht der verbundenen waffen" [Conduct and combat of the combined arms] paragraph 10, prescribes a main effort: "The main force must be used at the decisive point. Accordingly from the outset the troops must be separated. Every attack has its main effort. This must be expressed in the orders." This is true of the cavalry. It is true of every movement of an army, including the concentration. It is true of cavalry concentration. To concentrate strong forces at the critical points is the primary rule for every leader; it is the basis for all employment of cavalry and all cavalry leadership in war.

Objections may be made against this thesis. Is it possible in an orderly way to supply such a number of cavalry divisions concentrated in a small area? Difficulties are there, in a soldier's life, in order to be overcome. They must be great difficulties, to enable him to show of what stuff he is made. Frederick and Napoleon moved similar cavalry forces, not once only, but in all their campaigns, through half of Europe, and, in spite of the extremely arduous supply and transport conditions of the time, the mounted troops did not suffer from hunger. What was possible then must be more easily possible now, in the day of the truck, tractor, automobile, and other technical devices. The rider may have to live on the country. A minimum of truck columns would suffice. Forage for the horses is a greater difficulty. The solution is allocation of forage trucks to the divisions. An intelligent and foresighted leadership will find solutions for these problems. Obviously every officer must be particularly watchful of supply. But it should never happen that these difficulties cause an opportunity to be missed to contribute to successful combat. Training in these matters in peace time would be essential. Thus, even these difficulties would be obviated and there would emerge an energetic use of cavalry.

It is a fact of all wars of history, including the World War, that cavalry becomes fatigued very rapidly, and so becomes practically incapable of movement. Then it is of no use to the army. But the army command cannot withhold the cavalry from great undertakings, no matter how fatigue, loss of horses, and of effective combatants may threaten. The old Blücher had this experience at Katzbach—fatigue and falling out of the cavalry. But he knew the remedy. "One must not listen to complaints of the cavalry. When one has the great purpose of destruction of an entire

enemy army, the state can afford to lose a few hundred horses. To pass up the opportunity of exploiting a success is to make another battle necessary, when one would have been enough." The cavalry must go in, in spite of all fear, to the last breath of horse and man. "I am highly impatient of the cavalry. It knows its mission is to keep contact with the enemy, and to damage him wherever it can. Instead, it wishes to observe and always asks for orders. It is not enough to conquer; one must know how to exploit the victory. If we do not go after the enemy hard he will show up again, and we will have to fight a new battle for that which we could have attained in the first one." Thus, the old Blücher. But these principles must also be followed by the cavalry leader of the future. If one or the other squadron or even division, rides its horses to death, what matters it, if this brings a great victory, by pursuit and destruction of the enemy? In peace time great marches, long marches, not fast marches, must be practiced. The greatest requirement which must be made of the cavalry in peace, and war, next to combat, is the long continued march. If this is learned in peace, endurance will have been gained for war.

But the leaders can also save the strength of the cavalry. If they avoid using it for every unnecessary purpose and secondary mission, it will be ready in full force at the critical moment and place. This is the reward. But if the leaders see a "maid of all work" in the cavalry, sending it here, there, and yonder on long useless marches, then, on the critical day, there will be none to use. An exhausted cavalry, lacking in mobility, cannot help to win a battle. Great things depend on the understanding which the leaders have of the use of cavalry. In their hands is the decision whether it comes to the field of battle conserved, or exhausted.

It is not easy to lead cavalry. Seldom is there a great cavalry leader. But where there is one, the entire arm is great in performance. "The best cavalry can show its value and obtain its place in history only when it is commanded by a great leader such as Seydlitz" (General Field Marshal Count Wrangel, "Observations on the training and use of cavalry and on the creation of its leaders"). This is true, likewise, of the modern cavalry forces. If the use and activity of the cavalry depends on its original grouping, its first concentration, then this must be the concern of its leadership.

The great Schlieffen once wrote: "Great leaders are born, not made." This is true of the cavalry leader. He must be born to the rôle. But the born leader will be more easily discovered if great cavalry armies are already in existence to be trained and led. War will then still be the only sure test, but, perhaps, there will be less disillusionment than exists when leaders have only brigades or divisions to lead in peace time. If an army direction believes it necessary to create divisions and groupings of infantry, it must not be afraid to create cavalry divisions and cavalry corps. Autonomous and interdependent units are created in peace time only. But these are just what the cavalry leader will need in war.

Character and will make leaders. They make cavalry leaders. "A cavalry leader who is permitted his self-respect and individuality, must never let others (infantry leaders or higher leaders) demand of him, anything which pertains to his profession. He must have foreseen, decided, and acted in favor of such a matter himself. Whoever cannot do this does not know his handiwork, and deserves to be led on a leading string, but not to command any unit however small" (Frederick Karl, Prince of Prussia "On self-reliant action"). These words, which were pronounced in a time of attack-cavalry, can well serve for our times. The cool, calculating, quickly risking, decided and audacious, mobile and obdurate cavalry leader, who seeks to do, holds fast to the success, and exploits the victory to an annihilation of the enemy—he will be as seldom found as the true leader. But a general of cavalry, to whom fate has not been quite so kind, may achieve great things, if the supreme command puts him and his forces in the right place. That place is at the critical point,

and the plan to do this must commence with the concentration. Then leader and trooper, squadron and corps, will reach the goal which their great predecessor, General of Cavalry von Bernhardi, set for them. "Things will be quite different when the cavalry 'stays on top of its job,' when it not only defeats the enemy decisively on the field, but remains available after the victory, as the Prussian cavalry did at Soar and Rossbach. To attain this goal must be the effort of our cavalry, an effort with every thread of will. It must never be content with a half success, as on the Plateau of Ville fur Yron, as long as there is still one rider left to couch the lance. It must be resolved to expend the last man, the last breath. Who does not wish to play Va banque is no cavalryman."

KLINGBEIL, Generalmajor.—**Field fortifications in support of operations. East Prussian front, 1914-15.** [Die Feldebefestigung im Dienste der Operation. Dargestellt am ostpreuszischen Kriegsschauplatz 1914/15.] (Militär-Wochenblatt, 4, 11 April, 1932.) Abstracted by Major A. Vollmer

I

The offensive against East Prussia by the Army Group Shilinski on the Russian northwest front brought to bear the Njemen and Narew Armies, in the north and west, in an attempt at a simultaneous encirclement. It was an operation on exterior lines. In contrast thereto, the defense of East Prussia by the numerically inferior forces of the German Eighth Army was planned on interior lines. Both forms of operations are based on the alternation of attack and defense.

The attacker who operates on exterior lines must keep his separate groups in such cooperation that, while one is engaged in delaying action, the other may advance to restrict the operating area of the opponent and prepare for his eventual encirclement. On the other side the method of operation on interior lines is such that the defender attacks one enemy group with superior forces, while delaying the other with weaker forces, in order that defeat of the former group may make it possible to turn the main force against the latter.

The part taken in this alternation of attack and defense by the field fortifications was of especial importance in the eastern theater of war. Without entering into the technical minutiae, it must be noted that field fortifications are not simply a means of defense but, above all, they make forces available to the high command which can be utilized at the critical points.

1.—The Battle at Gumbinnen

General von Prittwitz decided to exploit the situation in which the Russians found themselves at the Masurian Lakes. Their advance would split their forces on these lakes and he could defeat them in detail. To this end, he ordered the assembly of the German Eighth Army on the Angerapp. However, while a "Schlieffen" plan would have concentrated all the forces west of the lakes, the Eighth German Army command assembled but two thirds of the forces. The XX German Army Corps, reinforced by the fortress garrisons, was stationed to cover the south frontier of the province in the vicinity of Artelsburg. The Schlieffen plan would have used all or at least a division from this corps on the Angerapp. Such weakening of the south group could have been remedied by appropriate use of field fortifications in the woods and lake country of the south front. (A picture of this terrain is afforded in Vol. 2, page 80, sketch 4 of the "World War 1914-1918"—German official history of the Reichsarchiv.)

On the southern wing of the east front, the orders of the German Eighth Army for the assembly behind the Angerapp required the 3d Reserve Division and 6th Landwehr Brigade to hold the line: Nikolaiken—Lotzen, and to extend the works of the fortress of Boyen (Lötzen) through field fortifications. The 1st Reserve Corps was required to fortify the

Angerapp position in extension from the lakes to the north. Meanwhile the attack group (XVII Army Corps with 1st Cavalry Division, main reserve Königsberg) was to assemble farther to the north in the area Darkehmen—Gumbinnen—Insterburg. When it appeared that the Russians were assembling with their north wing on or north of the road: Wirballen—Kovno, it became necessary to extend the German left wing farther to the north and reinforce it. Forces could be spared for this purpose from the south wing, between the lakes and back of the Angerapp. The favorable terrain made it possible for weak forces to contain stronger enemy forces. Thus a force of at least a division of the 1st Reserve Corps was made available for the decisive attack. The field fortifications lent themselves to the creation of strong points.

In a tactical sense, also, the course of the battle revealed noteworthy lessons in field fortification. While the plan existed at the German Eighth Army Headquarters that they would let the Russian Njemen Army run head on to the Angerapp and then encircle it on both of its wings, the German troops had fortified the stream and established bridgeheads. However, now that the Russians advanced but slowly and haltingly after the battle of Stalluponen, General von Prittwitz decided, in the afternoon of 19 August, on an advance to attack. While the German south wing (1st Reserve Corps), without reinforcement by the 3d Reserve Division, was successful, and the German north wing (I Army Corps) fought a decisive victory, the center experienced a serious reverse.

The two divisions (35th and 36th) of the German XVII Army Corps had thrown back the Russians at this point also, without trouble, but had then advanced into very unfavorable terrain, and run on to the strongly fortified Russian position east of the Schwentisch lake, and was finally forced to withdraw, in the evening, behind the Rominte, having suffered heavy casualties. Kurt Hesse has portrayed (in "General Psychologos," page 29) the devastating effect of the Russian defensive fire from their well concealed positions. "Until late into the evening the fire roared without ceasing. Each one dug for himself a little earth shelter. The marksmen dug nests in the intervals. Spade work saves bloodshed." This was "digging in during the attack" in the sense of post war regulations.

For the attacker the lack of adequate reconnaissance, and artillery preparation, and the failure to advance by bounds made itself felt; while the Russian resistance, cleverly suited to the ground, was increased.

This reverse in the center, and the news of the crossing of the frontier by the Narew Army, caused the Headquarters Eighth Army to decide to break off the combat and withdraw behind the Vistula.

However, the Russians followed so slowly that the Germans were able to withdraw unmolested. If the Russians had pressed on, heavy rear guard fighting would have ensued, in which field fortifications would again have become decisive. Even the courageous operations of the new command (Hindenburg—Ludendorff), in withdrawing the mass of the forces of the German east group from in front of the Niemen Army to strike a devastating blow against the Narew Army, could have been supported by fortifications on the natural defensive position of the Angerapp, in case Rennenkampf had pushed the pursuit.

Against the flanks of the Njemen Army arose the strengthened and augmented fortresses of Lötzen and K nigsberg. While the hitherto open west front at Lötzen was effectively closed by field fortifications on both sides of the Rhine, the fortress of Königsberg was reinforced by field works on the Pregel—Deiml and Haffanschlusz lines. By gradual upbuilding of temporary to permanent fortifications a strong position was here created. (Field Fortification Regulations Part 1, Par. 14)

How these two fortresses, strengthened by field fortifications, served to stop the advance of the Niemen Army, and thus contributed to the victory over the Narew Army, has been shown in an earlier article in No. 20 "Militär-Wochenblatt," Nov. 25, 1931. (See RCML No. 43, page 49 for translation thereof.)

2.—The Battle of Tannenberg

The course of this greatest encirclement in the history of the world shows the value of field fortifications in selected sectors in a war of movement.

The plan of the high command (Hindenburg—Ludendorff) was to concentrate all the available German forces east of the Vistula for an attack against the Narew Army. The XX German Army Corps, reinforced by the 3d Reserve Division and 6th Landwehr Brigade, was charged with the protection of this withdrawal of the German forces to the south. By delaying actions, with frequent entrenching at night, the XX Army Corps had withdrawn from Ortelsburg into a prepared position on both sides of Gilgenburg (Reichsarchiv, Vol. 2, page 124, Sketch 5). This position at Gilgenburg was on high ground in its west half, afforded a clear view of the open terrain to the front, and was protected by the Welle-lauf and lowlands. In the east, on the contrary, the natural strength of the position was not as great. From Lahna it ran behind the partially swampy Allegrund. Large lakes afforded protection on the east flank but great forests east of the line Neidenburg—Allenstein were, nevertheless, a continual danger here.

In this position, and, later, after the battle at Lahna and Orlau, with its left wing withdrawn to a new position: Gilgenburg—Muhlen—Drewenz (Reichsarchiv, Vol. 2, page 132, Sketch 6) the XX German Army Corps fulfilled its defensive mission during several days of battle, and by much use of the spade. It finally advanced with the other forces of the west group from this position against the left wing of the Narew Army.

Thus here was shown that field fortifications are not "the grave of the offensive."

On the Russian side the I Russian Army Corps (in spite of reinforcement by the 3d Guard Infantry Division, 1st Schützen Brigade, and 6th and 7th Cavalry Divisions) lacked the leadership needed in the situation. Its leaders failed to perceive the necessary transition from the original defensive protective mission (security of the left army flank against Thorn) to the later offensive mission of counterattack against the expected German attack of the left flank of the Narew Army, so as to bring it to a halt at any cost.

The attack of the right wing of the German Eighth Army was launched against an enemy (the Russian I Corps) who had had two days' time to prepare for defense. Everyone remembered the sad experiences of the XVII German Army Corps in its attack in the battle of Gumbinnen against Russians prepared for defense. Therefore careful artillery preparation was insisted on before any advance would commence.

The expected advance of the Njemen army was to be met from a position on both sides of Allenstein. As soon as forces were freed from the battle of Tannenberg the I Reserve Corps, with 37th Infantry Division and 6th Landwehr Brigade, was entrusted with the fortification of this position. The Landwehr Division Goltz was to undertake the closing against Russian cavalry of the chain of lakes northeast of Osterode.

For protection of the south front Soldau was to be strengthened as a base of support for an army corps. These positions were continued to the west by earlier frontier positions, with intervals; and reached eastward, again with intervals, to Neidenburg. Farther to the east the next positions were at Jedwabno. East of this the woods at Artelsburg were gradually fortified.

The bold plan of attack, the encirclement of the Narew Army, in spite of the threatened danger to the rear by the Njemen Army, did not make the high command forget, even at the inception of the battle of Tannenberg, to take measures for possible future eventualities. In case of failure of the projected attack against the Narew Army it was planned to make a stand east of the Vistula. Therefore the stream crossings were to

be kept open for the use of the forces expected later from the west. To this end, before the battle of Tannenberg, there was ordered the reconnaissance of a position in the general line: Graudenz—Eylau—Elbing (Reichsarchiv Vol. 2, Sketch 10). Civilian labor was counted on to prepare this position.

II

3.—The Battle on the Masurian Lakes

After the serious reverse suffered by the Narew Army at Tannenberg, it would undoubtedly have been strategically more correct to prosecute delaying actions until the Austro-Hungarian Army was completely beaten, rather than to seek another decisive encounter. Not until the arrival of reinforcements (the new Tenth Russian Army was assembling) and the reorganization of the Narew Army, did the time come for the renewal of the offensive.

General von Rennenkampf was advised by his staff to withdraw to the line Insterburg—Goldap, but, contrary to this advice, he felt strong enough to oppose the expected German assault on the naturally strong position back of the Deime, Alle, and Omet. This position had been strengthened in every way possible during a period of two weeks. It stretched from the Kurisches Haff to the Masurian Lakes. Two and one-half reserve divisions reinforced the endangered north wing. It was expected that the south wing could be held with a numerically inferior force. There it was expected the Germans would advance from Lötzen through the narrows across difficult fortified terrain. It was considered unnecessary to form an echeloned reserve on the south end of the lakes to prevent encirclement there, because the Tenth Russian Army could undertake this.

On the German side it was necessary to destroy the Njemen Army so that the German Eighth Army would be free to undertake the further operations. To this end all available forces had to be launched against the strong Njemen Army. Only an absolute minimum of forces (35th Reserve Division, 73rd Landwehr Brigade, and Landwehr Division Goltz) could be left on the south border of the East Prussian frontier. Any idea of an encirclement of the north wing of Rennenkampf's strong position was excluded. On the enemy south wing was the only chance of encirclement to force the Russians to the north against the Njemen.

Of the six corps of the German Eighth Army, two thirds were to operate against the strong Russian front northwest of the Masurian Lakes, a front which was 60 kilometers wide. These forces included the XX and XI Army Corps, I Reserve Corps, 6th Landwehr Brigade, Konigsberg and Posen Reserves. One third was to encircle the Russian south wing. These forces consisted of the XVIII and I Army Corps, and 3rd Reserve Division. In retrospect, it seems unfortunate that the force allotted to the south wing was not proportionately greater. It could have been one half, without endangering the front. To this end it would have been necessary to restrict the frontal attack to a narrower sector such as the line: Angerburg—Gerdauen, while merely executing feints between Gerdauen and the Pregel.

Without going into the details of the course of the battle, there emerge the lessons which it has for attack against and defense of fortified positions. The German attack on the south flank did not proceed fast enough, and the frontal attack was carried out too slowly. The German Eighth Army feared a counterattack by the strong, deeply echeloned Russian north wing. For this reason it was desired that the attack against the Russian south wing become effective before pushing the frontal attack. In the battle between Angerburg and Allenburg on 9 September the artillery was practically the only participant. The infantry was withheld. It was a delayed action which permitted the Russians to move their reserves or withdraw without being noticed. Thus Rennenkampf was able

to evade the issue by withdrawing before either attack was effective. In spite of Tannenberg the Germans had not yet learned to attack fortified positions. The Russians from their experience in Manchuria were past masters of field fortification, and had had two weeks to complete a naturally strong position (Reichsarchiv, Vol. 2, p. 280). There was especially a dearth of experience concerning the necessity of guns and munitions. Artillery fire superiority was not gained.

On the Russian side it would have been a proper delaying action if the Njemen Army had not defended on the Deime—Alle position but had withdrawn to the line: Insterburg—Darkehmen, leaving weak forces on the Allenburg—Angerburg front. The forces between Labian and Allenburg should have been made into an army reserve north of Insterburg. The south wing should have been held at all costs. If an encirclement be threatened there, this would necessitate a withdrawal to the line: Pillkallen—Stallupönen—Wisbainy.

4.—The Withdrawal to the Lotzen—Angerapp Position and the Winter Battle in Masuria

During all of October the German Eighth Army (10½ infantry divisions, 1 cavalry division) had, mainly by offensive action, held off Russian forces of twice the strength.

In the beginning of November when three divisions had to be sent to the Ninth Army, it was no longer possible to hold the front of 100 kilometers. Nothing else remained but to withdraw to the prepared position at Lötzen and back of the Angerapp (Reichsarchiv, Vol. 6, Sketches 19 and 21). But the enemy had been so delayed that the time gained had permitted the construction of a position which now could be held with a minimum of forces.

Since the change of command to Hindenburg—Ludendorff the little fortress "Boyen" had been made into the great fortress of Lötzen, of 75 kilometers in circumference. Since the victory at the Masurian Lakes a skeleton of strong points with connecting defensive lines had been constructed. In this work two companies of engineers and from 6,000 to 18,000 workmen had been engaged.

By the middle of October the infantry positions on the east front had been made effective. Approach trenches, shelters, and bomb proofs were still lacking. The west front of the position was still far behind in its construction.

The Angerapp position began on the northeast end of the lakes, north of Angerburg, and extended northwards to the Goldap-Mündung and along the west bank of the Angerapp to the road: Insterburg—Gumbinnen, —a front of 60 kilometers, with bridgeheads on the east bank of the stream at Darkehmen and Nemmersdorf. The works had been constructed since the beginning of October by 7 engineer companies and 2,000 workmen. By the middle of October trenches with wire obstacles were in place.

When the German troops withdrew into the prepared positions they found adequate defenses, although these were not yet completed. The garrisons had to complete the defenses of the forward positions, while workmen were used for those in rear.

In spite of the great numerical superiority of the Russians there soon ensued the quiet of a winter position warfare. Only at Lötzen did the enemy push slowly forward. The Russian army commander declared: "The strength of the German positions, the wealth of technical obstacles, and the massing of guns and machine guns, made a breakthrough impossible."

The German positions on the south front of East Prussia afforded a valuable defense. These were garrisoned by partially trained replacement troops, Landwehr, and Landsturm. By an active defense they held up superior Russian forces.

Protected by the chain of lakes and the Angerapp position, the German Eighth and Tenth Armies advanced for a double-envelopment in the winter battle in Masuria. Just east of the lakes the south wing of the Russian position was especially strong. It now devolved on the Landwehr Division Konigsberg and the left wing of the German Eighth Army to contain these forces until the double envelopment became effective. This envelopment was to be made in the north by the Tenth German Army and in the south by the right wing of the Eighth German Army, advancing through Arys—Johannisburg. But at the outset great difficulties were encountered. An envelopment of the hostile front did not succeed at once. Directions of attack against the enemy's flank and rear had to be gained. Not until the enemy's flanks were broken could a double envelopment be initiated. The unfavorable winter weather increased the difficulties. The terrain of lakes and narrows facilitated the enemy's rear guard actions, which could not be flanked but had to be attacked frontally. Narrow infantry points of long march columns ran onto an enemy who was prepared for them in fortified positions.

Development took much time, artillery support was meager, the burden of battle had to be borne more than ever by the infantry. Thus it resulted, thanks to the successful defense of the Russian flank in the south, that the first attempt at envelopment at Augustowo failed. The consequent delay, on the one hand, gave the Russians time to strengthen the Bobr front by reinforcements, and, on the other hand, increased the danger to the German flanks on the Njemen and particularly on the Narew. The later successful encirclement and the victory over the Russian center was a partial success. A strategic success was, however, not attained. But Hindenburg's blows against the Russian Tenth Army defeated the Russian plans to conquer East Prussia.

In summary, it may be said that the weak German forces in East Prussia, by the use of field fortifications, not only succeeded in holding up a numerically superior foe for 8 months but made available forces which sufficed for a decisive victory. The experiences gained afford important lessons, for the present and future, in respect to the use of field fortifications, the construction of positions, the requirements of man power, time and material, as well as in respect to attack and defense from such positions.

BROSSÉ, General French Army.—**Frontages and zones of action.***
[Les fronts de combat.] (Revue Militaire Francaise, March 1932)
Abstracted by Major C.A. Willoughby

I—Advantages and Dangers of Wide Fronts

With equal strength, a disposition over a wide front preserves strength for maneuver. The disadvantages are obvious: decrease in depth and reduction of density of fire; difficulties of liaison, etc. While difficulties of liaison can conceivably be overcome by additional, technical equipment, there seems to be a limit leading to over-extension.

II—The Fronts During the War

1.—The attacks in 1914 without adequate matériel

In 1914, the defensive power of the machine gun, in combination with trenches and barbed wire, gave a marked superiority to the defensive. The offensive was not adequately provided with matériel. Reconnaissance agencies were principally terrestrial. The technique of artillery support of the infantry advance was insufficiently developed. The enemy always possessed proportionate density of fire to the extent of front held.

*[Editor's Note: The problem of relative fronts or combat zones is a controversial one, engaging the attention of all armies. See preceding issue of RCML, No. 44, page 57, "A Tendency Toward Wider Combat Zones," as study on the same subject, from German sources.]

2.—The offensive fronts in 1918

Beginning with 1915 both opponents began to increase and improve their matériel, suitable for offensive action. Reconnaissance agencies were refined, through the advent of aerial photography. Offensives were staged after long and careful preparations only.

Experiences in 1917 indicated a fixed ratio of artillery support, to neutralize the automatic weapons of the defense: 5 groups of 75's per km. of front. The proportion of heavy calibers was variable: a thoroughly organized position required the employment of 4 groups (medium or heavy) per km. of front, with approximately 50% engaged in counterbattery.

In other words, the extent of front for the offensive of large units, was not determined by the capacity of its infantry but by the amount of artillery available.

3.—The defensive fronts (end of war)

A study of operations in 1918 does not furnish precise data as to the maximum frontage to be assigned to a division in the defensive. In general, all enemy attacks have been successful, except perhaps, in the case of the defense of the Fourth Army, which was mainly due to the depth of disposition. The front held by divisions was approximately 5 km. It is a fact that the withdrawal of the French MLR was not observed by the Germans; consequently, they wasted their preparation fires. It is therefore not permissible to state that a front of 5 kms. is the ideal frontage. It is a fact that whenever the attack was based on an accurate knowledge of the disposition of the defense, and was furnished with powerful matériel, the defender had to give way, although the defensive frontages were much narrower than those cited above; note the principal operations in 1918, viz:

21 May. Battle of St. Quentin
Fifth British Army (4,800 m., per Div. (2 Brig.)
Third British Army (3,700 m., per Div. (2 Brig.)
27 May. Battles of Chemin des Dames
Tenth French Army (7,000 m., per Div.)
9 June. Battle of the Matz
Third French Army (5,000 m., per Div.)
15 July. German Marne Offensive
Fifth & Sixth French Armies (6,700 m., per Div.)
18 July. French Offensive, South of the Aisne
Seventh German Army (4,500 m., per Div.)

The character of combat, on H-day can hardly give precise data regarding an effective width of front, for the defense, as conditions are certainly abnormal. A much better indication may be found on the last day of a breakthrough offensive, when the defense has rallied.

It is interesting to note that, in that case, the zone of action of the attack and of the defense become almost uniform in width, viz:

5 April. End of Battle of St. Quentin
French Front (North of the Oise) (4,000 m., per Div.)
5 June. End of Battle of the Aisne. East flank of the Marne pocket, between Aisne and Clignon
French front (3,000 m., per Div.)
German Front (3,000 m., per Div.)
20 June. End of Battle of Matz, from Moreuil to the Oise
French Front (2,700 m., per Div.)
German Front (2,500 m., per Div.)

The only conclusion to be arrived at is that a well-staged, well-equipped attack is successful until the defense rallies and is able to oppose an equivalent force, in men and matériel; this saturation point seems to be reached when the extent of front becomes equalized; there seems to be a way out,

through maneuver, to induce the attack to waste its strength on elastic dispositions for defense.

4.—Failure of Attacks Staged Without Adequate Matériel

In 1914 and 1915, even in 1918, attacks launched without adequate means have always failed. We have noticed that, during exploitation of a breakthrough, the German rear guards, principally machine guns, were always able to stop attacks without a proper ratio of artillery. Similarly, the Germans were unsuccessful, in the pocket of Montdidier, when they launched an attack, without artillery, relying on machine gun barrages. The same phenomenon can be observed in attack, presumably well equipped from the viewpoint of matériel, but where the enemy dispositions were not thoroughly reconnoitered and identified.

5.—The Employment of Wide Defensive Fronts

The enormous extent of the Western Front naturally resulted in over-extension, on certain fronts regarded as passive or quiet.

On the date of the great German offensives (27 May 1918) the averages, in Allied frontages, were as follows:

British Sector: 3,500 m., per Div.
Chemin des Dames: 7,000 m., per Div.
Vosges: 21,000 m., per Div.
Lorraine: 14,000 m., per Div.

This disposition, of course, reflected the strategic views of the Allied command. The German attacks were expected on the British Sector, with narrow frontages; the Germans, however, threw their mass on the Chemin des Dames and literally swamped the defense.

III—The Defense Since the War

1.—The Effect of Automatic Weapons (F.M. 1924)

The defense has profited by the marked improvement in the new model (F.M. 1924) of the automatic rifle. This type has characteristics, analogous to the machine guns, up to 1200 meters; there are 52 such rifles in the battalion; a disposition on favorable ground with one A.R. every 100 meters would establish a continuous line of fire of 5 kms. Ordinarily, enemy infantry cannot cross this barrier without the aid of artillery or tanks. The position will have to be reconnoitered before a combined attack can be launched—perhaps a delay of a day. Such a tier of A.R. is in reality a "cordon," without depth or reserves, capable of delaying the enemy but not of resisting. Resistance demands defensive fires, in depth, as well as in width and continuity. Continuity of front is necessary, as the enemy would enter through intervals not covered by fire. Density and depth are equally essential, as only a certain portion of automatic weapons will become effective, or survive the artillery preparation. Events in 1915 have shown that this will result in the formation of a pocket.

Reserves play as important a rôle as the units in line. As a general remark, it can be stated that the improvement in infantry weapons permits an extension in frontages.

2.—Recent Tendencies Regarding the Defense of Large Fronts

Two points of view are noticeable, at present:

(a) Disposition in center of resistance, with unoccupied intervals, controlled by fire, a series of "bastion" and "courtines" resembling the defensive systems of the XVII Century. The fall of Liège, in 1914, is a case in point. These "bastions" will disappear under powerful artillery preparation and with them, the interval.

(b) Disposition of small units, in surveillance, on points of probable approach of the enemy, the bulk of the forces held in rear; the advance echelons delay the enemy and become "pivots of maneuver" for the reserves. This system has a discouraging historical background in 1914. The advance elements were generally driven in, under heavy losses. The reserves had to occupy improvised positions or to fight in the open.

It appears that the defense is effective only along positions prepared in advance.

IV—Frontages in the Approach

There is a preliminary phase in offensive preparation, the approach; it is nothing more or less than the attempt to locate the bulk of the enemy forces.

At first glance, a solution would appear to employ the typical frontage, for attack. This is undesirable, as it would require an initial deployment of our entire force, at the expense of general reserves. This sort of thing happened in August 1914. A more reasonable solution appears to be a disposition in two general echelons, (a) first line Corps, extended over considerable fronts, to establish contact; (b) Reserve Corps, to be engaged when the mass of the enemy is identified. Consequently, the divisions in the first echelon should march on broad fronts.

Essential conditions for the approach are obtained by observing certain formations and dispositions.

(a) The columns leave main routes when long range artillery fire begins to be felt. In this case, a wide front is a real advantage, as it furnishes a road net.

(b) In close proximity to the enemy, the columns break up further; with this dispersion, command difficulties will arise and liaison agencies will be strained to a breaking point. Our regulations indicate a maximum front of 1000 meters, for the battalion.

In practice, this front was enlarged and became "a zone of advance" of 2000 meters, particularly as regards advance guard battalions. The battalion does not actually occupy or cover this front; the battalions advance abreast but at "intervals" of about 1 km.; the intervals are covered by patrols. This implies a sharp distinction between "zone of advance" and "zone of action (attack)"; the battalion covers the former (2 kms.) but will only operate, in a serious effort, in the latter (1 km.). This idea is regarded as controversial.

(c) As regards artillery in direct support, the present practice is to establish parallel zones of 3-4 kms. and cover this "strip" from a central position; one half of the artillery follows the infantry to the formed border of the "Strip" and takes up firing positions; the remainder then repeats the "leap-frog" advance. If a front is larger, for instance, 6 kms., it is doubtful that the light artillery can furnish adequate support; finally, suitable firing positions may not always be found to coincide with the march of the infantry.

(d) Tanks.—It is already contemplated to use tanks with advance guard; it must be considered, however, that the allotment cannot be liberal and that tanks are vulnerable and essentially GHQ reserve.

Assuming then that the regulation frontage for the battalion is from 1000 to 1500 meters, this will result in a frontage of 9 kms. per division; to satisfy this extension, the three infantry regiments have to march abreast, in zones of advance of 3 kms. each, each covered by a group (Bn) of 75's. This disposition will tax communications and command. The front of attack of a position is not determined by the possibilities of infantry fire but by the supporting weapons—artillery and tanks.

V—Frontages in Attack

The new equipment (A.R. 1924) has permitted an increase in the frontage of the battalion and the regiment; as on the basis of one automatic rifle every 50 m., the battalion can cover a front of 600 m., while in

1918 this figure was generally 300-400 m. The regiment has also extended, principally because of the improvement in trench mortars. The front of division, however, remained practically the same, since the proportion of 75's is about the same. The beneficial effect of improved automatic fire weapons does not extend to the division, since these weapons, of that trajectory, have no properties of "neutralization," which artillery projectiles do possess to a high degree.

World War experience has stressed artillery preparation as an indispensable factor; there must be a certain proportion of artillery. This consideration seems to have a bearing on the much discussed "war of movement." There seems to be an opinion that future wars will resemble the initial phases of 1914, i.e., attack follow contact, conducted with comparatively limited equipment and ammunition.

This appears to me a debatable question. Granted that events will move rapidly and action is swift, as long as we are dealing with small forces, or isolated units, or merely "covering" forces. But as soon as the main bodies come into play, the large units covered by a system of continuous fires, then we shall again require matériel, as in 1918. Battle appears to develop, in a series of successive actions, each preceded by a period of preparation. Hence, mobile warfare cannot be said to consist exclusively of hasty attack, staged with ordinary equipment; that is merely a preliminary phase of combat, gaining contact the moment one encounters the enemy mass, resistance stiffens which will call for a marked density of fires and matériel.

The operations of the Tenth Army, north of the Aisne, toward the middle of August 1918, are a case in point. It was observed that the Germans were disposed in two lines, with the mass on the second position.

The French command directed the attack in two distinct stages:

H-2 Attack against the German 1st line
H Attack against the principal (2d) line

The initial attack, in surprise, was effected by divisions already in the sector, some of them holding fronts of 10 to 14 kms., but remarkably supported by artillery; this attack, on the 18th, succeeded entirely. The Artillery support was exceptional: an infantry regiment, attacking on a front of 2400 m., was supported by 4 Regts. 75's, i.e., 36 batteries.

Conclusion

In 1914 the means for defensive warfare were superior to the offensive. The subsequent development of combat methods and armament was for the purpose of correcting this inferiority.

In 1918, the balance inclined in favor of the offensive, particularly when the density of the matériel was assured by a corresponding reduction of frontages. We must admit that the war was terminated only through an extraordinary employment of matériel. However offensive the idea may seem, a future war will again develop into a "war of matériel."

RANDEWEG, Oberleutnant German Army.—**The German radio interception in the Battle of Tannenberg.** [Die deutsche Funkaufklarung in der Schlacht bei Tannenberg.] (Wissen und Wehr, March 1932) Abstracted by Major A. Vollmer

On the German side there was no scheme of radio intercept service on the outbreak of war. The fortresses of Königsberg, Thorn, Graudenz and Posen had major radio stations, but before war was declared and for a month thereafter, only the first two listened in on Russian dispatches. The matter was secondary to the chief function of their own transmission.

The Russian messages which were intercepted were, however, from the beginning, of great value to the German Army. This value lay in the fact that the information thus secured served to verify conclusions al-

ready reached from other data, rather than that it alone brought about such conclusions. At the beginning of the battle of Tannenberg the messages intercepted revealed the enemy intentions in a way which is seldom the case.

The article is replete with examples of messages intercepted during this period of August and September 1914. The authority for the messages and surrounding circumstances is the second volume of the highly dependable Reichsarchiv work (The World War 1914-1918—Official German History—Reichsarchiv), and the author of this article cites the pertinent pages thereof in footnotes.

To show the nature and bearing of this information, two messages, intercepted during the night 24-25 August, and transmitted to Headquarters Eighth German Army, are presented here.

The first one, which enlightened the German commander concerning the combat situation of the German I Army Corps on his departure from Army headquarters at Riesenburg for Montowo, reads as follows:

> "To General Aljew (IV Corps)
>
> "The Army will continue the attack. On 25 August it will reach the line: Wirbeln—Saalau—Norkitten—Potauren—Nordenburg; on 26 August the line: Damerau—Petersdorf—Wehlau—Allenburg—Gerdauen. The river will be the boundary between the XX and III Corps; the road Schwirbeln—Kl. Potauren—Allenburg will be the boundary between the III and IV Corps, the road itself to the III Corps. The Chan Hussein Nachitschewanski (2d Cav. Div.) will advance in front of the Army in the direction of Allenburg and in the sector between Pregel and the line: Darkehmen—Gerdauen—Bartenstein, north of which will operate Rauch with his division (2d Guard Cav. Div.) and south of which Gurko (1st Cav. Div.). The crossing of the Pregel is the mission of the XX Corps.
>
> "(Signed) RENNENKAMPF (First Army)"

This message disclosed the situation of the hitherto unknown organization of the Njemen Army. (See Sketch 2 as contrasted with Sketch 1.) Moreover, it revealed combat zones and march objectives for two days. The German command learns that the Njemen Army will go forward on August 26 only to the line: Gerdauen—Allenburg—Wehlau. Here is specially exemplified the psychological moment. If the message had given march objectives farther to the west, or if it had not mentioned them at all, could one safely have reduced the forces of the East group? Did this not do away with the worry persistent into the afternoon of the previous day as to what would become of the Corps of the German East group "if Rennenkampf marches on freely and in this nothing could prevent him"? The Reichsarchiv work admits that, after the receipt of this message, the estimate was verified that "one can without hindrance break off contact with the Narew Army."

The second message was delivered to the German commander at Löbau during the ride to Montowo. It reads:

> "To the Commander of the XIII Corps.
>
> "After the battle on the front of the XV Corps the enemy corps withdrew in the general direction of Osterode. At Gilgenburg a Landwehr brigade was reported. Our First Army will continue the pursuit of the enemy who is withdrawing on Königsberg—Rastenburg. The Second Army will attack the front: Allenstein—Osterode. On 25 August the main bodies of the Corps will advance in the direction: III Corps Gimmendorf—Kurken; XV Corps Nadrau—Paulsgut; XXIII Corps Michalken

—Gr. Gardienen. Corps boundaries are: between XIII and XV Corps: Muschaken—Schwedrich—Naglade (?); between XV and XXIII Corps: Neidenburg—Wittigwalde. The I Corps remained in the area reached and covers the left wing of the Army. The VI Corps advances into the area Bischofsburg—Rothfliesz and covers the right wing of the Army against Rastenburg. The 4th Cavalry Division, assigned to the Corps Commander, will reconnoiter between the lines Rastenburg—Bartenstein and Seeburg —Heilsberg. Mission Directive No. 4 Army Staff Ostrolenka.

"(Signed) SAMSANOW (Second Army)"

By this message the former messages were clarified and verified. (See Sketch No. 3.) Moreover, the German command was informed by this message concerning the general intentions of the Narew Army on 25 August, as well as concerning combat organization, identifications, combat zones, reconnaissance areas, and march objectives. The Reichsarchiv work considers that this message strengthened the hope that on August 25th no further attack by the Narew Army was to be expected, and that combat would not occur earlier than that evening. In fact the day went by without combat.

JOGUET, Chef d'escadron.—**Infantry—Artillery liaison and the observation detachment of the artillery battalion.** [La liaison infanterie-artillerie et le détachement d'observation du groupe d'artillerie.] (Revue d'Infanterie, May 1932) Abstracted by Major V. Meyer

The author's introduction bears quoting:

"The liaison instructions of 12 December, 1916, prescribed the forming of 'liaison and observation detachments' for the artillery. It was quickly realized that the observation mission was entirely separate from the liaison mission and that the locality which was suitable to observe fire under good conditions, was rarely, if ever, near the command post of the infantry regimental or battalion commander, where naturally the artillery communications agent was to be found. The observer must certainly locate himself where he can see. Hence one has been led to separate the two missions in assigning them to separate detachments; a liaison detachment with the infantry on the one hand; an observation detachment with the artillery battalion on the other hand.

"Thus, while the first term 'liaison and observation detachment' indicated close cooperation between the non-commissioned liaison and observation personnel, the last term, by creating two distinct detachments, apparently marked too great a gap between the two missions. Each of the two detachments was to work on its own; but their missions, though distinct were complementary, and infantry-artillery liaison would not be assured unless the two detachments worked in full accord. Moreover this phase was to be found in the Regulations for Maneuver (Artillery in Combat, paragraph 61):—in battalions, the liaison officer and the observation officer are interchangeable.

"The purpose of this article is to show how close association between the two detachments can, in many cases, facilitate infantry-artillery liaison and assure observation of artillery fires called for by the infantry."

The author then assumes a situation in which a normal French division of three infantry regiments, three artillery battalions, etc., is marching in two columns with an advance guard of one battalion of infantry and one battalion of 75's in the north column, and two battalions of infantry and one of 75's in the south column.

The liaison officer marches with the infantry regimental commander who commands the advance guard of the south column. The artillery non-commissioned personnel and certain communications agents accompany the two infantry battalion commanders of the advance guard.

The leading company is suddenly stopped by hostile machine gun fire. It cannot advance without incurring unwarranted losses, unless the hostile machine gun is first neutralized or destroyed by artillery fire. Therefore, the company commander sends back by messenger to his battalion commander a brief report of the situation, at the same time indicating by coordinates on the 1/80,000 or 1/50,000 map the position of the machine gun. The author assumes that this message is sent at 3:30 P.M.

At 3:45 P.M., the battalion commander sends a request for artillery fire to his regimental commander, notifying the artillery liaison non-commissioned officer with him of his action. In addition, the battalion commander sends some such message to his company commander: "Have requested artillery fire—stop all movement—hour of fire to be announced later. I have had the adjacent companies notified."

At regimental headquarters, both the infantry colonel and the artillery liaison officer get the request for artillery fire, the request coming to the colonel from the battalion commander, and to the artillery liaison officer from his agent up forward. The liaison officer discusses possibilities of fire with the colonel and informs him of the delay involved before fire can be put down. At 4:10 P.M., the liaison officer sends the request for fire, together with available data on the machine gun, to the artillery battalion commander, who then designates the battery to do the firing, and warns the artillery battalion observer to adjust the fire.

The author states: "Thus an hour has passed between the initial request for fire and its execution. This figure, an average under most favorable circumstances, implies that the infantry must halt on its line during this period, even if hostile resistance has disappeared, in order not to come under its own artillery fire. The battery fires and theoretically destroys or neutralizes the machine gun. But practically the inaccuracy of the coordinates sent back, and lack of observation and of meteorological data allow of no such result."

The author then discusses the advantage of having the commander of the infantry company which is held up, observe for the artillery battery which does the firing. To do this, however, the infantry officer must understand the principles of artillery adjustment, especially from a lateral observation post. Should he possess such ability, the next thing is the means of sending his observations back to the artillery battery. This is considered impractical and is dismissed by the author.

The discussion is then resumed as a strictly artillery problem. The author brings out the fact that both the liaison non-commissioned officer with the infantry battalion commander and the liaison officer with the infantry regimental commander must remain close to these commanders, and they in turn are not generally at a good OP. Furthermore, these liaison agents labor under the difficulty of locating on the terrain a target which has been designated to them by the coordinates sent back by the liaison agent up forward. "How then," says the author, "can artillery fire be conducted or observed under such conditions?" And he continues: "The problem of fire adjustment is not solved; and, when the artillery firing is completed and the infantry advances, it runs the risk of falling again under hostile machine gun fire."

There are three general phases to the discussion:

(1) Designation of the resistance
(2) Sending back the request for artillery fire
(3) Observation of the artillery fire

In the author's opinion, the last phase is by far the most important but, using the method above described, he affirms that it is nearly always incapable of solution.

The author then discusses his own idea as to how the problem should be solved practically.

In brief, it is to have an artillery sergeant-observer with each front line infantry company. By lamp signal, the sergeant-observer sends word directly to the officer observing fire for the artillery battalion. Better yet, this sergeant-observer, after locating the target from his position up in the front line company, can report back to this officer observer with his information. With the aid of this sergeant, the latter from a favorable OP should be able to pick up the target. He then adjusts fire by using the regular telephone net leading to the battery which has been designated for this fire mission by the artillery battalion commander.

It is the author's belief that this method will only slightly reduce the hour's delay necessitated by the previously described method, but he claims that the certainty of observation and artillery adjustment by his method is incontestable. In his method, he still employs the regular liaison channel for sending back requests from the front line companies, but this is only a check on the other means. Thus the artillery will receive the request for fire through two channels: (1) by way of the infantry battalion, regiment and artillery liaison officer; (2) direct to the officer observer of the artillery battalion from the liaison non-commissioned officer who has come back from the front lines with information of the target and its actual position on the terrain.

Night operations. [La Guerra de Noche.] (Boletín del Ejército, March-April 1932) Abstracted by Captain J.C. Whitcomb

Night combat should be of strictly limited objective. It should not be undertaken as an operation complete in itself but only as complementary to or preparatory to larger operations.

Its proportions are nearly always small. Cases like that of Laon, the assault and defeat of the entire Corps of Marmot by the Prussians on the night of 9-10 March 1814, or like that of Hochkirch won by the Austrian Marshal Daun against Frederick II on the dawn of 14 October 1758, are in every way exceptional. As Clausewitz says, "Night attacks are essentially only combats of limited intensity, and only on very rare occasions great battles."

The importance of night operations must be measured not by their size but by their results. And situations exist when the necessary surprise and the evasion of effective hostile fire can be attained only under cover of darkness.

Military history of all ages offers numerous examples of night marches and combats. And, also, on many occasions the advantage of deceptions and surprise has been abandoned because of the great difficulties which night operations present. Prior to the invention of firearms, when the tactical strength of a unit depended largely upon its formation, there existed evident interest in means of investing an enemy at night while he was unformed and unorganized. In our day the importance of night surprise is increased because it denies the enemy the effective employment of those powerful and precise engines of death with which modern science has supplied the fury of man.

This truth finds proof in the latest campaigns. The number of night operations effected in all wars of the last century are enormous. And in the World War the number of night marches and night combats was so great that the Belgian Infantry Regulations state with good reason—deducing lessons from the past—that in the future "more and more the attacker will resort to night operations and consequently more and more must the defender be predisposed to meet them."

It would seem suitable, before passing to the study of logistics and tactics of night operations, to summarize their characteristics—character-

istics which are brought about by darkness, by the fears darkness develops, and which transcend the rules of execution.

It is known that darkness and silence are the distinctive marks of night. The primary effect of darkness is that it limits and makes vision impossible or extremely difficult, and creates distorted visual sensations corresponding hardly at all to the real object seen, with the result that men are apt at night not to recognize ground with which they are perfectly familiar by day. The history of night operations presents hundreds of examples of disorientation, and, without enumerating these, we will only state that disorientation is much easier, naturally, in cross-country marches than in those along roads. In the first case the distance is usually shorter; in the second, the precautions against disorders are easier. We will treat of these points more in detail on taking up night logistics.

Night, moreover, becomes an increment of fatigue in troops on the march, and many times results in disorder. This for two reasons: first, because the lack of light does not permit the soldier to direct his progress with security, avoiding the small irregularities of the ground, the holes, ruts, stones, etc., which impede his advance; second, because night is the accustomed period of man's daily rest, drowsiness weighs down his body, the sensorial organs are less vigilant and fatigue is more rapidly developed. Failure to appreciate these truths has had no little influence in the unsuccessful outcome of some night operations.

Nocturnal resonance, due to the silence which ordinarily accompanies darkness, is another characteristic worthy of consideration in our study of night operations. On still nights the least sound is distinctly perceptible. The special training of troops for night action, the placing of sentinels, so as to be able to avoid interference with the night sounds, must be based on the importance which sound acquires at night. At night the greater sensitiveness of hearing compensates in part for the deficiencies of vision.

The influence of night is not manifested alone in its physical and physiological effects. The soldier in the dark is apt to have a vague feeling of defenselessness against the audacious and insidious. He is mastered by a morbid state of uneasy expectancy which peoples the darkness with phantoms. Military annals abound in examples of panics at night occasioned by inconsequential happenings. A few shots exchanged between two patrols of the same unit caused a terrible panic in the veteran IV French Corps at Villaharta on 15 October 1809. The shots, near the column, of some poachers stampeded a column of Bavarian cavalry in the War of 1866.

Aside from actual panic, the demoralizing influence of night has, on combat a more frequent manifestation. We allude to the depression of morale which, added to that produced by surprise, is sustained by the troops attacked; and we also allude to those serious moments of psychological crisis which originates many times in the ranks of the assailant on hearing the first shots of the defenders. These are the moments in which the outcome of the operation are truly determined. From these considerations two facts evolve: first, that night operations should be participated in only by troops well trained, disciplined, and of high morale; second, that if, as Napoleon says, in war the morale is to the physical as 3 to 1, then it is clear that at night this ratio should be doubled.

From a purely material and tactical point of view the effects of night can be reduced to three: it favors surprise; it makes difficult the exercise of command; it greatly reduces the effectiveness of fire. We shall consider these separately.

The greater facility which night offers for the realization of surprise is acknowledged. It was principally this advantage which brought about the night battles of ancient times, since surprise, in addition to its morale aspects, had always the advantage of not permitting the adversary full use of his formations and weapons. Today surprise is made difficult by the excellence and quantity of means of information possessed by modern armies, by the strength of defense and by the better dissemination of

troops over the theater of operations. And because of these, perhaps, the value of surprise has grown to be, in the opinion of many authors of treatises, one of the principles of military art.

The principal obstacle to the exercise of command is that it is of necessity limited to the radius of immediate command. This obstacle can be overcome to a considerable extent by foresight and preparation in adopting beforehand means to overcome them—an adequate system of connection and communication and more or less rigid formations half way between close and extended order.

Finally the reduction in the effect of fire due to darkness is one of the most interesting phenomena of night combat, because it promises to be a principal reason for the increased use of night operations in the future. The effect of small arms fire at night is practically nil. The hand grenade and the bayonet are the arms which aggressive infantry should use. As for the artillery, its use in open warfare will be most difficult but in position warfare it will be of great value, if not in preparation—avoided to maintain surprise—then on the rear areas of the hostile position, from the moment of contact, to impede and delay hostile reserves.

On the defense, circumstances will be different. The modern means of illumination, the flanking fire of automatic weapons previously laid for night fires, and connections and rapid communications with artillery make it quite beyond dispute that the fires of the defense will be much less affected by darkness than those of the attack. (To be continued)

Preparation for Overseas expeditions. [Operaciones combinadas.] (Revista Militar, May 1931) Abstracted by Captain W.F. Safford

1. Strategic Selection of the Zone of Operations

From the study of what are the three most important combined campaigns of history we may deduce what are the strategic requirements for an enterprise of this kind.

Going back to the year 1808 we find England concerned with a problem of troop transportation. The situation in the first years of the nineteenth century is clearly expressed by Napier in his "Peninsular War" when he says: "Never was the good fortune of England more evident than at this period when its army and navy were so at odds, and blind fate directed the councils of the government. First, why was a force, drawn from all parts of the Mediterranean, sent to the Baltic, while at the same time, an expedition composed of troops recently arrived from the Baltic was sent to the Mediterranean? An army for the conquest of South America had been concentrated in Ireland but unexpected events necessitated its use in Portugal. An expedition sent against the Spaniards at Ceuta arrived at Gibraltar at the moment the insurrection broke out in Andalucia. Fortunately this prevented the attack on Ceuta, which would have materially helped Napoleon in his Peninsular campaign. Furthermore, three days after Moore had withdrawn his army from Sweden, orders were received to use the fleets to transport Spanish troops, under the command of Romana, which was not necessary and would have delayed, if not entirely frustrated, the Portuguese campaign. The ministers, however, were resolved at any cost to prevent Moore from commanding the expedition to Portugal. Nor was England's luck any less in that in so many and such continuous voyages no disaster overtook the large fleets that promenaded her power from one end of Europe to the other."

To show the indefinite nature of the strategic objectives given to the commanders of these expeditions let us quote from "Military Expeditions Beyond the Seas," by Furze: "When Sir Arthur Wellesley sailed from Cork, 12 July 1808, at the head of 10,000 men, for the Peninsula, he had received no precise instructions other than to lend all possible aid to the Spaniards and Portuguese to throw off the French yoke. The ministry not having indicated any plan of action nor determined where to land

the troops, it fell to Sir Arthur to decide upon what site he could successfully employ his troops against the French. Being fully convinced of the impossibility of facing the invaders in Spain, he resolved to undertake operations against Junot, in Portugal."

In an analogous situation it is necessary to make a thorough examination of the military situation in the various theaters of operations. Having determined the point where the available troops will best influence the war as a whole, such forces should be sent there.

Having established the most advantageous theater, a profound study of the geographical, hydrographical and meteorological characteristics should be made of the coastal perimeter of the selected zone. When the invader has sea superiority a coastal zone in the form of a peninsula lends itself admirably as a point of disembarkation and a base for the invading forces.

The war in Spain shows the advantages of landing in such a place. Wellington, at Lisbon, selected a peninsula for the initial landing as he could thus be attacked on but one front, the northern. The other three sides were invulnerable because the English completely dominated the sea. The vulnerable side was transformed into the formidable defensive line of Torres—Vedras by completing the works of nature. Moore, the other invader, in Coruna, was defeated in battle and obliged to retreat precipitately on his point of support, tenaciously pursued by the hostile forces. He not only lost his own life in the holocaust, but a large part of his army was destroyed before it could reembark on the English ships waiting in the port of Coruna. Moore had made the error of selecting a point difficult to defend when the situation became adverse. Only a part of the fugitive forces escaped; the result was the complete failure of the English invasion of the Galician provinces. On the other hand, Wellington never found himself in a similar situation, although he certainly had many hard days.

Another of the examples chosen is the Dardanelles campaign. In this special case there was the necessity of forcing a defile solidly defended. In this campaign it was imperative that the Allies control the straits in order to profit by the Russian granaries and, more than all, in order to fill the acute needs of Russia for arms and ammunition. These elements had been scarce since the beginning of 1915, and, unless promptly remedied, the collapse would soon follow. The failure to force the passage had fatal consequences for Russia.

In forcing a passage by brute strength, as in the Dardanelles expedition, it is essential that from the very beginning it be a combined operation. Even as early as 1807 Admiral Duckworth wrote: "I must declare that it is my decided opinion that, without the cooperation of a powerful corps of land forces, it would be an unjustifiable sacrifice of the squadrons of both nations to attempt to force the passage (Dardanelles)." It was not only necessary to force the defile, but the liberty of the routes of communication should be secured. That is, the employment of the Dardanelles as a line of communication for Russia demanded a continuous occupation. For this the systematic occupation of both fortified coasts and the destruction of the forts was necessary in order to secure free communication with the Sea of Marmora. In a case like this the majority of times certainly do not permit utilizing a peninsula for disembarkation. It will be necessary to conform to the advantages offered by nature in the zone to which restricted, and to operate in it in the manner best adapted to the characteristics of the projected operations.

The third example is the German Baltic occupation. It is the more general case in which it is necessary to occupy enemy territory so as to attain strategic objectives. The taking of the Baltic Islands was a result of the advance of the Eighth Army, which constituted the German left wing on the eastern front. In order to be rid of the threat against the German lines of communications it was necessary that possession of the

islands be wrested from the Russians. In this particular case it was necessary to fight against permanent fortifications, mine fields, and enemy ships, before landing forces could operate freely in the region that it was planned to conquer. The results surpassed the German expectations. The success was due to maintaining secrecy in the operations. The Russians had no indication of the point where the blow would be delivered. Evidently, also, the victory was more easily obtained by reason of the first symptoms of the revolution.

The amphibious enterprise that will be encountered most frequently will be the occupation of an advanced base in hostile territory. It is evident that the success of an undertaking of this nature requires the previous profound study of the special characteristics of the zone of operations; not only the natural but also the artificial, the defending forces, etc. The execution calls for the most detailed work in preparation. All operations must be most carefully planned and coordinated; orders must be precise and must consider the tactical necessities to be met during the progress of the campaign.

2. Compilation of Information, etc.

In modern wars information is always incomplete and many times inexact; at others it is entirely lacking, and frequently the enemy gives out erroneous information with the deliberate intention of deceiving.

The execution of a joint operation in a coastal zone will demand the compilation of all the information possible referring to the region of future operations.

In time of peace all information of the maritime zones which may present any advantage for possible future operations is secured and serves as a guide for the policy of the country in international questions. All the information that may be of interest for preparation for war is normally obtained by the military and naval attachés of a nation, from periodicals, by spies and from tourists. In respect to a zone especially selected for combined operations particular care in the compilation of available information must be taken since fatal consequences may be the result of a preparation based on data obtained which differs substantially from the true. In this respect the most convenient point for landing at Gallipoli was Cape Helles, according to information furnished by the English naval mission that was instructing the Turkish Navy when the war began. However, Liman von Sanders has stated that the most favorable point for disembarkation was near the Isthmus of Bulair. Deficient information produced the most horrible disaster in the history of combined operations. This, then, shows the necessity of weighing most carefully all available information. The points to be considered in this compilation should include:

(1) Nature of the accesses to the most appropriate places for a debarkation.
(2) Sufficient maneuver space for the transports and even warships.
(3) Anchorages sheltered as much as possible from enemy attacks by artillery, submarines, aviation, or a combination of these elements.
(4) A compilation of information, difficult to obtain, of hostile mine fields, especially as this data may be altered profoundly and particular care must be taken on this point as, in general, such information is not fully reliable.

From maps and charts all data possible will be compiled on the characteristics of the probable zone of operations. This will include: depth, nature of bottom, meteorological conditions; facilities of the beaches for access by motor boats and rowboats; disembarkation of troops and matériel; space available for advance of small boats (propelled by oars or by

motor) in line or column, that is to say, all the characteristics which may be obtained with respect to the facilities of the different points of the coast for the simultaneous landing of the maximum number of troops. Data will be compiled as to tides, tables of sun and moon rise and set, duration of twilight, etc.

For all points where a landing can be made data must be compiled to cover: nature of beaches—rock, sand, rock and sand, etc.—steep slopes or gradual declivities, cuts, such as rivers, brooks, arroyos, gorges, swamps, sand banks, promontories, subdivision into "beaches" (for landing), etc. All the details of the nature of the terrain, with respect to defensive positions, including known or suspected fortified points; hostile lines of communications and routes of enemy approach; probable hostile assembly areas, lines of communication from the beaches to the interior.

For the best results it will be necessary to have the most exact knowledge of the hostile forces, terrestrial as well as naval and aerial, distributed in the zone. This includes data with reference to effectiveness, such as state of discipline and morale; training; armament; quality of their leaders; quantity, caliber and supply of artillery; location of fixed defenses; armament of each; mine fields to complete the defensive system; and location of other defensive means such as hydroplane stations, etc.

It is logical that part of the information of the quality, composition, armament, location, etc., of hostile forces will be erroneous at any particular moment because of rapid variations, due to shifting forces by modern transportation. But the data which does not vary, such as terrain, roads, railroads, meteorological characteristics, characteristics of harbors, permanent defenses, etc., contribute greatly to the success of a combined operation.

Referring to the information to be obtained about enemy forces and the terrain, Captain W.S. Pye, U.S. Navy, in his work "Joint Operations of the Army and Navy," says: "It is the duty of every commander to fight the enemy under conditions as favorable to himself and unfavorable for him (the enemy) as possible. Information of enemy forces, situation, movement and of the physical characteristics of the theater of operations are of vital importance for the commander upon whom rests the responsibility of selecting time, place and manner of conducting the war. Much of this necessary information may be and should be obtained in time of peace, since, upon the declaration of war, or the outbreak of hostilities, reception of information by normal peace time means ceases. Indecision or delay, produced by awaiting information, may be fatal for the operation.

"The information alluded to may be considered the basis upon which is constructed the operative plans. Its exactitude is vital. The most certain information is useless, if not received in time.

"Exact and opportune information augments the power of initiative which, when well employed, may be a decisive factor in a campaign.

"Lack of information frequently produces vacillation and confusion. These factors contribute to defeat."

A typical case of the inconvenience caused by insufficient information of the adversary and of the zone of operations is found in the Franco-British attack on Sebastopol during the Crimean War. Information was not only lacking as to enemy forces and permanent defenses, but also very little attention was paid to the terrain, points and anchorages for disembarkation, meteorological conditions and logistics, that is to say, the possibility of feeding and supplying the army and furnishing it with the necessary means of transportation on land. This negligence caused great confusion and trouble for the Allies, and, had the enemy been more energetic and skillful, it is very possible that the French and British would have suffered a severe reverse. In that campaign the troops were without the shelter necessary to support the rigors of the climate; the medical service did not function properly; transportation of provisions on land broke down; all because of lack of foresight by those who directed the operations.

Again quoting Captain Pye, "The study of the terrain for a joint operation should be more complete than those made for independent maritime or terrestrial operations. The nature of the terrain has an important influence on the method of attack. The method to be employed influences directly the organization of the attacking forces, the proportion of troops of each arm and the kinds of arms to be employed, especially with reference to the type of artillery."

In combined operations the study of the terrain should not be limited solely to the coastal zone. The ground has a great influence on the means of land transportation to be used by the landing forces. Transportation of horses by sea is always difficult. Whenever possible the proportion of mechanical means of transportation should be large. In some places these would be useless, however. The history of combined operations shows that in many cases the troops were not provided with the transportation best adapted to the ground over which they were to operate. The German landing on Oesel Island is a case of the replacement of natural means of transportation (horses, mules, etc.) by mechanical means, with complete success. (The main substitution was of a brigade of cyclists for an equivalent force of cavalry.)

3. Organization of the Command of an Expeditionary Force

Special care should be taken in the organization of the command and general staff of an expeditionary force. This command should be organized both in the naval and military forces. The superior command will be that of the branch which has preponderance in each phase of the operations. The lack of command, in the full sense of the word, will result in grave consequences for the combined enterprise. The Dardanelles was a model of improvisations in this matter. General Hamilton was appointed commander only a few hours before sailing for the Orient. His general staff was organized in the most uncertain form, and, upon entering into its functions, lacked the training requisite for a service of such delicacy and such responsibility. At that time there were no plans of operations either, so that the chaos from the command point of view was complete.

General Eli K. Cole, USMC, referring to organization of command, says: "Each war plan will prescribe for each phase of the compaign the method of coordination between terrestrial and naval forces. If the coordination is effected on the basis of the criterion of prevailing interest the war plan will also establish which of the armed forces will have the prevailing interest. In case the criterion adopted is the unity of command it will be specified whether the commander in chief shall be an officer of the army or of the navy."

4. Preparation of the Plan of Operations

Naturally the preparation of the plan of operations will be founded upon an estimate of the situation. In this the possible actions of both adversaries will be compared. The most favorable points for landing and the zone in which the landing parties will have the best chance of reaching their objectives will be determined with respect to the possibilities of combined action. On the other hand a similar study will be made with respect to the enemy which, arriving logically at the same conclusion, will be ready to oppose the landing. Preparations for a combined operation on a large scale will not escape hostile observation, although this should be guarded against, since the enemy will naturally reinforce the threatened zone. As the zones of possible landing will, in general, be various there will always be the possibility that in each one there will be, at the beginning, but a small portion of the defender's forces. In this case exact calculation should be made of the time necessary for the enemy to concentrate forces for a systematic offensive or to defend a base in order that the assailants be prevented from taking the offensive.

Once the General Staff is in possession of the essential elements of information of which we have spoken, it may proceed to draw up the plan of operations for the projected enterprise.

The lack of a plan was shown in the case of the Dardanelles campaign, in which none was prepared, although in the War Office in London there was an official pre-war plan. This, however, in nowise took into consideration any of the necessities of the enterprise to be executed. But at least it would have been of some value, in view of the total lack of any other. The improvisations that arose from this lack had fatal consequences for the success of the expedition.

General Eli K. Cole, USMC, in his article, "Joint Operations Beyond the Seas" (U. S. Naval Institute Proceedings, November 1929), says: "The attacker will take into consideration the characteristics of his own attack and in preparing his plan for landing will endeavor to neutralize the plan of defense (enemy). He will consider where the defenses are capable of doing the most harm to the attacking forces. These problematical defenses will be shown on a large scale map to permit the localization of targets.

"The map will be of sufficient size to include the section of the coast affected by the landing and as far into the interior as the range of the naval guns to be employed. In its final form it will be used not only to indicate the places to be submitted to fire during the disembarkation, but also a means of localizing points where a special fire is desired. Having carefully considered the known and probable localizations of the enemy defenses, the military commander should consider how they will have to be conquered or neutralized. Eventually he will make tables which will contain his estimate of the expenditure of ammunition necessary for the accomplishment of his mission. The estimate of the military commander will go to the naval commander for his study of the problem. He, in turn, will decide if the number of guns and ammunition necessary to execute the program of the military commander are practical. Reduced charges will be of great value for indirect fire. The quantity and class of ammunition ordinarily carried by warships is inadequate for the fire required in support of a landing. This is the subject of much discussion, and it will be difficult to solve this problem satisfactorily. Probably it will be settled by the two commanders—or by their technical staffs—and will be a compromise between the two services. Meanwhile the artillery of the expeditionary force will be disembarked as soon as possible. Nothing larger than the 75's can be depended upon within 48 hours, or even later, after the initial landing. During this period the navy should furnish protective fires to our troops on the coast when fire of guns heavier than the 75's is required."

The plan of operations should take into consideration the different situations of strategical or tactical nature which may be encountered, deciding in each case the best directive to follow.

(Each of these problems will be treated in detail in succeeding installments.)

Study of a river crossing by a cavalry division. [Étude d'un franchissement de rivière par une division de cavalerie.] (Revue de Cavalerie, March-April 1932) Abstracted by Major N.B. Briscoe

The following is a resumé of a study made on the terrain in the region of Nemours, in the course of which a cavalry division was given a mission of exploitation which required the crossing of the Loing River and its parallel canal.

The situation finds the Blues executing a sudden withdrawal with a loss of contact by the Reds.

A Red cavalry division (the subject of this study) is directed to:

(1) Regain contact

(2) Force a crossing of the Loing and seize certain high ground "in such manner as to take in reverse the enemy elements defending the Loing south of Nemours and to place fire upon the road . . ."

The 1st Cavalry Division (Red) is composed of two brigades of horse cavalry, a regiment of portée cavalry, a battalion of combat cars, a regiment of 75's, horsed, a battalion of 105's portée, a company of engineer cyclists, with, attached, an observation squadron, a battalion of mechanized 75's, a battalion of 75's portée, a bridge company, and a telegraph company.

The contact was quickly regained and the Blue rear guards stopped the Red reconnaissance detachments, then the advance guards of the columns, and finally the columns themselves were blocked, whereupon the decision was to attack. The attack succeeded, and we find the Red cavalry division disposed as follows, south to north: (Note: In front of the cuirassiers the obstacles are canal, then river, while in front of the dragoons the obstacles are river, then canal.)

On the right the cuirassier brigade stopped in front of Nemours, unable to cross the canal; all canal bridges destroyed.

On the left, two battalions of the portée dragoons, "who have made the main effort," are assembling in a woods; the third battalion, launched on an exploitation after the Blue line was broken, has reached the river and found the bridge cut. A few men are across the river but stopped at the canal, this bridge also being cut.

Some chasseur elements are in contact with Blue cavalry on the left flank. One of the chasseur regiments is assembling, after its attack, in rear of the centre.

One battalion of artillery is displacing forward, all others still in the attack positions.

The engineer was directed to plan, during the attack, the crossing of the brigade of chasseurs, the regiment of dragoons portée, and a part of the artillery; and the bridge material, as well as the foot bridges (Veyry) of the horsed brigades, has been sent well forward.

The division commander and the engineer have gone forward to reconnoitre. It is 4:00 PM.

The Tactical Plan of Crossing

(1) To place on the near bank of the canal (i.e., across the river), a part of the dragoons portée with some sections of artillery. (The country across the canal has no observation and is very closely covered.)

(2) To seize a bridgehead in a direction (left) that takes advantage of the position of the few men of the dragoons who are between the river and the canal. This phase has three steps:

(a) A forcible crossing of the canal by a battalion of dragoons.

(b) The crossing of the remainder of the regiment of dragoons.

(c) Seizure of the bridgehead by the two battalions of dragoons (second wave, b) each reinforced by a section of 75's.

(3) An attack behind Nemours (right) to open the way for the cuirassier brigade to cross, and "if possible to seize the permanent bridges of the locality."

The chasseur brigade, supported by a regiment of 75's, to execute (3), following the attack in such manner that they will cross the canal (second obstacle) at H+2, "the moment when, according to the most optimistic estimate, the bridgehead will be conquered."

The Technical Plan of Crossing

(1) To cross the river with 3 battalions and some pieces of 75.

(2) To cross the canal with one battalion of dragoons (one hour before daybreak) then cross the other two battalions.

(3) Finally, to cross the brigade of chasseurs and a battalion of the horsed artillery.

The technical reconnaissance will include:

On one hand, the possibilities of repairing the bridges and the search for materials therefor.

On the other,

(a) The conditions for launching the crossings of the river;
(b) The method of crossing the canal.

All reconnaissances are made before dark and are participated in by engineers, cyclist engineers, and dragoon officers (unit making the initial crossing).

The following results were attained:

One abutment and one pier of the stone bridge over the river at Gretz destroyed, gap of 20 meters, cannot be repaired before the morning of the second day.

Steel bridge over the canal at Montcourt (directly beyond Gretz) framework intact, flooring damaged, can be repaired quickly with materials in vicinity.

Boats on the river destroyed, but beams, logs, and planks available in the vicinity.

The river 50 meters wide, the canal 20 meters wide, three points of easy access to the river, one near the bridge with a road near the edge of the water, one where the bank is 2 meters high, and one approached only by a trail across a swamp.

The technical material on hand is:

(a) 17 inflated rafts of the cyclist pioneers;
(b) One bridge company (Delacroix).

This material (Delacroix) will make 63 meters of bridge carrying 2 tons (riflemen by twos, one 75 carriage with 2 horses, or a transport auto of the dragoons). Or, as footbridge, 106.5 meters carrying 1 ton (riflemen in single file).

(c) The Veyry material of the regiments (four), each capable of
24 meters for single file (horses by swimming)
15 meters for column of twos (horses swim)
12 meters for column of twos (horses single file)
9 meters for light vehicles without animals

The engineer decides to use the material thus: The Delacroix bridge at the point where the road reaches the water, half the Veyry matériel at another point, the inflated rafts to be used on the canal, the remaining Veyry matériel in reserve for use later on the canal.

The engineer execution follows:

At 7:30 PM engineer orders issued.

At 8:30 PM engineer troops join their reconnaissance groups at the river and prepare for construction of the bridge (Delacroix) by staking, arranging the banks, plotting unloading of matériel, staking out the trail to the road, etc. Similar operations with the Veyry matériel at the other point.

At 9:30 the order for construction is issued.

At 10:00 PM the equipage arrives and construction is started.

At 1:30 AM the Veyry bridge is finished, and

At 2:30 AM the Delacroix bridge.

The Crossing of the Troops

During the bridge construction the troops have been moved towards the bridges.

A staff officer regulates the movements and an engineer commander with a detachment handles the bridge.

Troops cross the river as follows:

HOUR	DELACROIX	VEYRY
1:30 to 2	.....	3d Bn. of Dragoons (afoot)
2:30	Cyclist Co., Engrs.	.....
3:00	2 Sections 75's	Hq. & 1 Bn. Dragoons (afoot)
3:30	1 Bn. Dragoons (afoot)	.....
4:00	.....	.....

The 3d Bn. of the Dragoons, and the cyclist engineers arrive at the canal about 3:30 AM.

Crossing the canal.

After 8:30 PM some engineers and the pioneer section of the dragoons worked their way across the river by the means available (rafts and boats) comp eting their crossing by 10:30 PM. So far, the reconnaissance patrols are the only other troops across, and points for crossing the canal are chosen, the rafts brought forward by hand, and under cover of the high banks and the growth along the banks the sacks (rafts) are distributed for crossing the 3d Bn. of the Dragoons when it arrives. This arrival, under guidance of the pioneers, takes place around 4:00 to 4:30 AM.

About 3:45 AM the engineers left in the village (Gretz) by the river, came up with ladders, poles, and planks obtained there. "There can be no question, in fact, of finding on the ground, by night, in the woods, material quickly usable." This material is for use in making two footbridges on the inflated rafts.

A delay of one and a half hours occurred here awaiting construction of the bridges, all material being carried by hand through the woods in the dark.

The crossing of the battalion of dragoons is undertaken at 5:30, by means of two foot bridges and eight or ten rafts, under the protection of the fire of the remainder of the regiment.

After the passage of the leading battalion other crossings must be made for moving the two battalions of dragoons, the brigade of chasseurs, and especially a battalion of 75's. The head of the dragoons will arrive at the canal about 6:15, to be followed by two sections of artillery. Assuming that the steel bridge cannot be repaired by this time, two methods of crossing the artillery can be employed:

(a) Use the remainder of the Delacroix bridge (63 meters, 50 at the river), two bays, augmented by local material and some of the inflated rafts or wood rafts. This will require one and a half to two hours.

(b) Use the inflated rafts. 7 sacks will make a float capable of carrying one 75 carriage, but difficulties of embarkation and debarkation will require 15 to 20 minutes for each load.

The remaining dragoons can use the footbridges used by the leading battalion, but it will take one hour per battalion.

To increase further the number of crossings it is necessary either to bring forward the Veyry equipment from the river or take that of the cuirassiers, leaving them none for their own crossing.

Either way, the two battalions of dragoons with two pieces of 75's can be across by 7:00 AM. A bridgehead of one to one and a half kilometers conquered by 8:00, and either a Delacroix bridge or repairs to the steel bridge by 9:00 open the way for everything.

During the establishment of the bridgehead the brigade of chasseurs, less a flank guard, crosses between 6:00 and 7:30, and the regiment of 75's (firing batteries only) is over by 8:30. The chasseurs are across the canal by 8:00 and attack at 8:30. Objectives are attained by 10:30. The Blues, attacked by the chasseurs and fired on by the cuirassiers and artillery, abandon Nemours.

The march is resumed about 11:30. The cuirassiers and the heavy vehicles cross the bridge at Nemours. During this time the vehicles of the

dragoons, and all the combat trains of the chasseurs and artillery cross the ponton bridges completing by 2:00 PM.

The cavalry division crossed all its elements except the heavy vehicles by the means included in the division.

Some conclusions are drawn:

Necessity for having engineers and bridge material well forward when confronted by a crossing operation.

Necessity for having the bridge matériel horse drawn and the engineer troops on bicycles instead of trucks.

Necessity for finding a permanent crossing, in or out of the division zone, for crossing heavy vehicles, or being able to place heavy bridge material for this purpose (from corps or army).

This article is accompanied by 3 maps. Names of places have been purposely omitted from this digest, the maps not being practicable here.

DUFFOUR, Général French Army.—**The terrain factor in strategy.** [L'élément terrain en stratégie.] (Revue Militaire Francaise, April 1932) Abstracted by Major C.A. Willoughby

This brilliant article covers the terrain factor, in strategy, in the following sequence: Terrain in tactics and in strategy. I. Historical retrospect; the views of Bülow, Jomini, Napoleon, Archduke Charles, Clausewitz, Moltke, Foch; comparison of doctrines. II. The terrain factor in the operations plans of French and Germans, August 1914: A.—Schlieffen-Moltke; B.—Plan XVII. III. A concrete case: Operations of the First and Second French Armies, in Lorraine, from 8 to 20 August 1914. IV. Remarks on these operations; conclusions.

In the domain of "tactics," fire is the ultima-ratio of maneuver; the object of the latter is to gain fire superiority. Terrain, of course, affects this operation; it furnishes O.P's, firing positions, cover, etc. However, the progress of modern armament and technical equipment has a tendency to relieve combat from dependence on terrain: the airplane, armored vehicles—tomorrow, perhaps, electric agencies.

In the domain of "strategy," the role of terrain is equally important. Strategy and geography are inseparably linked—just as tactics and topography are linked.

Has this interplay of elements been thoroughly evaluated in the past? Has it had a bearing on the initial disposition of 1914? Before going into this phase, I propose to study historical concepts, the evolution of ideas to show that variations existed before and that the terrain factor was not always appreciated.

I

H. DE BÜLOW.

Bülow published a treatise, in 1799: "L'Esprit du système de Guerre moderne, diduit du 'principe d'une base d'opérations' et mis à la portée des profanes en l'art de la Guerre, par un ancien officer prussien." The "base" he speaks of, is a line joining 2 depots (fortresses) from which an army can subsist itself; two lines, connecting the extremity of the base with the "objective" form a triangle, i.e., a theater of operations. Obviously the L of C of this problematic army, may be exposed to danger, in

[EDITOR'S NOTE: The author of this interesting study, General Duffour, is well known through his recent activity in the Dept. of Mil. History, École Superieure de Guerre. The following titles by him are on file in the C & GSS Library: "Cours d'histoire la guerre de 1914-1918" (2 vols.); "Evolution brought about by the effectiveness of fire during the War 1914-18" (Translation); "Extract from the battle of France in 1918. The final German offensive & the counterattack of the Allies, 15-18 July 1918" (Translation); "La guerre de 1914-1918 cours d'histoire, École Superieure de Guerre" (2 vols. & maps); "Sketch of the evolution which the effectiveness of fire brought about during the War of 1914-18 in the organization of different arms of service and in ideas on the conduct of war"; "A strategical study of the World War. A critical outline of the ideas & efforts which formed the framework of the strife."]

a ratio of "distance" from the base. With this curious geometric flavor, v.Bulow deduces that: (a) An operation is not sufficiently "based" until the angle, at the apex of triangle, is at least 60 degrees; (b) A concave form is the best for the "base," as the enemy will run into a "pocket." All this leads him to proclaim that "the form and direction" of the base dominate warfare, and that the only decisive "objectives" are the "depots" and the "lines of communication and supply." The inevitable development of this curious idea is "avoid battle in order to maneuver." With such an archaic conception, terrain is hardly considered as an element. This idea appears ridiculous at the present, but is significant of the confusion of military ideas, in that epoch.

JOMINI.

An officer on the staff of Marshal Ney, published in the fall of 1805 a "Treatise of Grand Tactics"—based on the operations in recent war, with a summary of the more important maxims of war. This work, which Napoleon himself regarded as valuable, has since enjoyed the reputation of a classic. Napoleon III, on the eve of the campaign of Italy, of 1859, did not hesitate to ask Jomini, then at the age of 80 years, for a preliminary plan.

Jomini's ideas on terrain are found in Chapter III of "Précis de l'Art de la Guerre." Jomini's style and composition are meticulous, detailed and excessively uninteresting. However, he has arrived at many conceptions, of current use and modern character. He made a distinction between geographic (strategic) and topographic (tactical) features, of a theater of operations. He recognized and defined the principle of "mass," the "main effort," "unity of action," and to him the single purpose of "maneuver" was to seek "battle." His point of view, stripped of the vagaries of a pedantic style, might have avoided the disasters of 1870.

NAPOLEON.

The Napoleonic employment of terrain is distinctly in the field of strategy, and connected with that type of Napoleonic maneuver, that aimed at the rear of the opponent. Terrain features are utilized:

(a) To cover, or mask, the concentration and the direction against the enemy's L. of C. (Examples: 1805, the Rhine and the Black Forest; 1806, the Main River, from Wurzburg to Amberg and the Forest of Thuringe; in 1812, the Dnieper [movement on Smolensk]; in 1815, the Forest of Beaumont. In his plan, which he suggested to Moreau, in 1800, the concentration directed on Schaffouse was to be under cover of the Rhine.)

(b) Or force the enemy on unfavorable ground. (Examples: The Adda, in May 1796; Arcole, in November 1796; in 1800, the Stradella and the Tessin; in 1805, the Lech [against Mack]; in 1806, the Saale River [Naumbourg and Jena]; in 1809, the Danube, the Isar, the Abens; . . . etc.

Napoleon utilizes terrain in a dynamic manner; terrain and obstacles (river, forests, mountains) are used to advance his liberty of action and retard that of the enemy—a purely objective employment.

He regards "fortifications" of all categories in the same light—a screen for concentration or movement, cover for lines of communication, or as positions of readiness (1806 and fall of 1813).

THE ARCHDUKE CHARLES.

The Napoleonic system, to use terrain with suppleness, appears to have escaped this otherwise able general. In 1806 he published a treatise "Principes de l'Art de la Guerre a l'usage des généraux de l'Armée autrichienne," as a result of his observations in the campaign of 1797, in the Alps, and that of 1805 against Masséna. In 1807 after Essling—Wagram, he rewrote this study; this second edition appears to have influenced Austrian military thought until 1866.

As regards "terrain," we find frequent references to the doctrine that movements must be coordinated with the conquest or defense of "strategic points"; these are extracts of this theory:

> "Concentration or movement must take in view the protection of 'vital areas,' lines of communications to a base of operations . . ."
>
> "A point is said to be 'strategic' when its possession is decisive for an operation—when the enemy cannot ignore it . . ."
>
> "Each nation has such 'strategic points,' as they control its material resources."

This narrow interpretation led to a veritable professional "fetishism" of strategic areas. It ignored the Napoleonic maxim that the sole purpose of movement is "combat" and "battle." The effect of this idea is traceable in Schwarzenberg's strategy, in 1814, when he decided on the plateau of Langres as a principal objective, in certain ideas of the Austrian Staffs, in the campaign of Italy 1859; in 1866, when the Austrian Army was immobilized on the position of Josephstadt, which Benedek regarded as "decisive."

CLAUSEWITZ.

Clausewitz, on the contrary, took issue with the Archduke, in his famous "Vom Kriege." "Destruction of the enemy" is the natural object of warfare; this implies the systematic search for battle, for combat. Obviously, enemy resistance is predicated on economic resources; to that extent Clausewitz considers the conquest of "territory," as such, but only as a relative factor of the subjugation of the opponent.

V. MOLTKE.

The strategic doctrine of Moltke, expressed in numerous "Memoirs," is positive and direct. His thorough grasp of modern technical possibilities led him early to perfect the command of large units, the "National Army." For this master of "mass," terrain is a strategic factor; he is not interested in "positions" like Cadenbronn, or Froeschweiller, or their local topography, but in geographic features that may affect movements on a grand scale, river-lines or mountain masses, rail or road nets, etc. Like Napoleon, he attaches great value to a combination of river lines and fortifications, suitable as bridgeheads.

His ideas on the strategic employment of terrain, and of fortifications, are ably expressed in his study in 1859 on "Positions on a flank."

MARSHAL FOCH.

His views on terrain are contained in a brochure, published in 1911: "Emploi du terrain et de la Fortification dans la Strategy." We find significant passages: "We have failed to employ terrain and fortification—in reality its reinforcement!—as a cover for initial concentrations, or a means to conserve a mass of maneuver."

In general, Foch's ideas correspond to those of the elder Moltke. His views on "Permanent Fortification" are plain: "Fortifications are nothing but an aid to strategy. Care must be taken that they do not become 'tombs' for the armies (Metz—Sedan)." A further section of this study is noteworthy, "Application de la théorie à la Frontière du Nord-Est," considering that it was written before the formulation of Plan XVII. He is a protagonist of the offensive (La course à l'initiative dans l'attaque est de devoir absolu). He recommends a direction of advance on Berlin, based on Moltke's famous directive of May 6, 1870, "Operations in France to consist of the advance, until the enemy is met. The march direction is on Paris, since we are sure to encounter the enemy, on that line."

However, Foch was aware that an active enemy might anticipate his own plan, then the problem became one of a defensive attitude and "terrain and obstacles, reinforced by fortifications give the solution."

He selected the line of the Moselle, above Toul and the Meuse above Commercy, screened by the fortifications of Épinal, Toul and Verdun.

The continuation of this study will be concerned with the terrain element in Plan XVII and Schlieffen's Plan. In retrospect, the historical evolution of ideas regarding terrain might be grouped progressively, as follows:

(1) The geometric conception; a purely linear interpretation of great terrain features. Bülow represents the extreme archaic view, bordering on the absurd.

(2) A conception, which assigns an "intrinsic value" to terrain features, which therefore may become objectives and exclusive purpose of a maneuver.

(3) A modern interpretation, which assigns terrain a "relative value," as an aid but not as the motive for maneuver.

(To be continued)

Section 4

BOOK REVIEWS

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Adye, Major-General Sir John.—**Napoleon of the snows.** With an introduction by Field-Marshal Viscount Allenby. London, 1931 ..... M 94405-N

CONTENTS: Introduction; Preface; Preparation; Execution; Accomplishment; Notes; Map.

REVIEWED BY MAJOR P. MENOHER

A detailed account of Bonaparte's daily movements and activities, with the object of showing the workings of Napoleon's mind, from the 6th of May, 1800, when he left Paris, to the 14th of June, when he fought the battle of Marengo.

The work is based on the "Correspondence" and the semi-official "Campagne à l'armée de Réserve en 1800," published in 1900 with the sanction of the French Ministry of War.

Of general interest to all students of military history and of special interest to all officers studying the Marengo campaign and Bonaparte's early leadership. A general map is appended.

Ballard, Brigadier-General.—**Smith-Dorrien.** London, 1931 ..... M 942-B92 (SM)

CONTENTS: Introduction. Some small wars: Zululand, 1879; Egypt, 1882-1886; Ten years in India, 1889-1897; Omdurman, 1898; Fashoda, 1898; South Africa, 1900-1901. Twelve years of peace: Simla and Quetta, 1902-1907; Aldershot and Salisbury, 1908-1914. The Great War: A bad start; Mons; Le Cateau; The Retreat; The Marne; The Aisne; First Ypres; The deadlock; Gas; The resignation; "1914"; Conclusion.

REVIEWED BY MAJOR P. MENOHER

This text should be studied in connection with Sir John French's "1914." It is a direct refutation of that text and a defense of Smith-Dorrien's action at Le Cateau and Ypres.

Of special interest to all students of early operations of the B.E.F. in France, and of the relationship of a commander with his immediate subordinates. Sketches are included.

Beadon, Colonel R.H.—**The Royal Army Service Corps. A history of transport and supply.** Vol. II. Cambridge, 1931 M 420-C.42-C1

CONTENTS: Preface; Introduction, by Sir John Fortescue. "After South Africa"; The early development of the mechanical transport; The eve of the Great War; The British Expeditionary Force; The operations on the Gallipoli Peninsula; The Balkans and the Black Sea; The campaigns in Egypt and Palestine; The Campaign in Mesopotamia; The campaign in East Africa; The British Army in Italy; North Russia; The war period in the United Kingdom; The Corps in India; In divers fields; Maps; Index.

REVIEWED BY MAJOR R.C.L. GRAHAM

Beginning with the end of the South African War of 1899-1902, the first three chapters, excepting a brief description of the operations of the Royal Army Service Corps in the Somaliland Campaign of 1909, deal with the procuring of officers for the R.A.S.C. in time of peace, changes in organization, and the development of motor transportation.

Chapters IV to XII, inclusive, and Chapter XVI describe the activities of the Royal Army Service Corps in the various British theatres during the World War, with a chapter for each theatre showing the organization and functioning of supply and transportation and means taken to overcome difficulties peculiar to each theatre. In each case the major strategical and tactical operations in that theatre are described, tying in with them not only the principal operations of the Royal Army Service Corps, i.e., supply and transportation, but also the general operations of the other "Q" Directorates, thus presenting a good but brief logistical picture. A few statistics relative to supply, and motor vehicles and their maintenance, are given.

Chapters XIII and XIV deal with some of the problems of The Quartermaster General of the Forces, and Supply and Transport Directorates of the War Office, the organization, functions, growth and training of the Royal Army Service Corps in Great Britain; while Chapter XV deals with the Supply and Transport Corps of the Indian Army, and later the Royal Army Service Corps in India during the War and subsequent to the War.

The chapters dealing with British operations in secondary theatres during the World War are particularly interesting, and furnish excellent material for logistical research in connection with those theatres.

Belloc, Hilaire.—**Six British battles.** Crecy, Poitiers, Blenheim, Malplaquet, Tourcoing, Waterloo. 1931 ..... M 942-C

CONTENTS: Preface; Introduction to Crecy and Poitiers; Crecy; Poitiers; The aspect of Crecy and Poitiers; Blenheim; Malplaquet; Tourcoing; Waterloo; List of maps and plans; Index.

REVIEWED BY MAJOR H.F. NICHOLS

This excellent book, published in late 1931 of material written in 1910-1912, consists of a series of studies of the battles of Crecy (1346), Poitiers (1356), Blenheim (1704), Malplaquet (1709), Tourcoing (1794), and Waterloo (1815). The studies appear to be carefully based on available sources, but unfortunately, and probably because they were written prior to 1913 as a series of essays, no bibliography of sources is given. However, Hilaire Belloc's reputation as a close and accurate student of strategy and tactics lends weight to the worth of these studies.

Without exception, the accounts are well written. The politics of the times, the strategical backgrounds, the terrains, the preliminaries, and the phase actions of the various battles are separately discussed, and numerous strategical and tactical maps enable the reader to easily follow the developments of the campaigns and the details of the battle actions.

The book is particularly recommended to the reader interested in historical research, which Belloc discusses in his introduction to Crecy and Poitiers, and to the G-2 Section of this School. It is also recommended to the military reader who is interested in comprehensive but brief accounts of six battles of decisive effect in the Franco-British warfare from 1300 to 1815.

Bono, Generale Emilio De.—**Nell' esercito nostro prima della guerra.** [Army of Italy at outbreak of War.] 1931.....M 205-C.45

CONTENTS: Prefazione. Parte Prima: Gli ufficiale; Gli ufficiali; Gli instituti militari; I commandi. Parte Seconda: Al reggimento; L'ambiente; La cultura degli ufficiali; La vita di ogni giorno; I distaccamenti. Parte Terza: Le instruzioni e le esercitazioni; Campi e manovre; Il morale e la morale della favola.

REVIEWED BY PFC. FRANK BAYNE

This book represents the recollections of the author's service in the 36th Battalion of Bersaglieri before the war. There is no pretention to fine literature. There is plenty of military slang and dialect, and no one who is not, or has not been a soldier, with his heart in his profession, can appreciate the spirit in which the book is written.

The General begins his experiences with his entry into the Military College at the age of 12 in 1878. The Italian nation at that time had been united but eight years, chiefly through the efforts of Garibaldi, and therefore as a national organization, the Italian Army itself was equally as young. The Sardinians, the Neopolitans and the Garibaldians and others had hardly amalgamated into anything that could really be called an army. Political and sectional differences as well as dialects, drew strong marked lines of which the General gives some amusing incidents. In 1880, however, military education for officers was on a good footing. On graduation from the Military College, the best pupils went to the Academy at Turin or Modena. General De Bono was not proficient enough in mathematics to qualify for Turin, but he applied for entrance to Modena. His commanding officer hearing of this, told him there was no chance for him and literally booted him out of the office, but young De Bono went to Modena nevertheless. Here the general draws a comparison between the well ordered life at Turin and the more or less disorderly Modena. He goes on to relate that the course for lieutenants at Parma was a joke—and that the "Scuola de Guerra" contained too much theory. The staff officers being loaded up with office work conducted on ancient methods, which were both strict and useless, and the successful officers dug themselves firmly in at Rome. The General gives some amusing instances of the rules for military correspondence.

In the second part of the book, we find the officer with his regiment. The General contends that here the young officer learns more than if he attended all the military colleges. The captain, he states, is the real and only educator and instructor of the young soldiers, mostly of peasant stock, called up under the compulsory military law.

The humors of men and N.C.O.'s are unexhaustible subjects in all armies, but none so much as in the Italian Army, where the differences in dialects and lower mentality of the peasant result in scenes of the highest comedy. To quote but one instance: A scene at the railway station in Naples. A group of Neapolitan conscripts who are ordered to Genoa, with their families grouped around them, crying and hoping they will get back home safely; while on another track, a body of convicts are leaving for hard labor, but amid the cheeriest salutations of their families.

The General goes on to tell of barrack life, its discomforts and inconveniences, as well as the strict rules that were in force, such as that a broom had to last a month and the occasional event of giving instructions in the rooms, while the room-orderlies were sweeping, the tragic scenes which occurred at the monthly inspections of equipment and the amusing incidents that attended guard. The poverty of the men and officers in the infantry is very vividly portrayed. The officers' mess was allowed fifty lire a month to subsist each officer and the junior officers could not afford very much more than that. Very few officers had civilian suits and none of them made to measure—they bought what they could ready made. The General states that when he came back from Somaliland with accumulated pay, he bought a green overcoat for 17.95 at the army exchange in Venice, an umbrella for 2.75 lire and a Gladstone bag for 7.50 lire and these soon became the common property of the battalion officers' mess.

Every year there have been special maneuvers for the General Staff, but due to lack of proper terrain, they have not been up to the proper standard. General Bono states that it is his personal opinion that especially junior officers should be trained for war in these maneuvers, and they should not consider maneuvers as a game. The training of all troops should always be for war and not for the exercise they might get out of it. It has long been a drawback to the Italian Army, that it lacks proper terrain for its various branches. Each year it is necessary to hold maneuvers on the same ground as the previous year. In 1874-75 there was a fixed place for maneuvers for all branches of the army excepting mountain artillery and Alpini (Italian frontier troops). In 1870 a division in the maneuvers consisted of the following troops: 1 brigade of infantry, a brigade of "genio" (ordnance, engineers, labor battalion, etc.), 1 brigade of field artillery and 1 regiment of Bersaglieri. The Alpini and mountain artillery did all their maneuvers in the Alps and were privileged troops because they had all the room they wanted, while the other branches of the army were cramped for enough terrain to properly carry out their functions. Outside of the Alpini and mountain artillery, the other branches of the army have always used the Campo di Spresione, as this seems the only available ground in Italy that is large enough for maneuvers, and is not under cultivation. The Infantry and Bersaglieri regiments were equipped for mountain maneuvers, however, they never went to the Alps. For a long time it never occurred to the Italian General Staff that some day both the infantry and Bersaglieri might be called upon to defend Italy's mountainous frontier, but when the General Staff thought of this, they allowed each regiment of infantry or Bersaglieri only 18 wagons, and these were to be manned by the men themselves. It was many years later that the Italian government, with a great burst of generosity, allowed each regiment of infantry or Bersaglieri 7 mules.

Prior to the World War, the most important thing of the maneuvers was not the proper solution of the problems, but the final review and march past the King. The General then goes on to describe in his own humorous way, the life the men led while on these maneuvers.

It was not until 1917, that the Italian Army began to "wake up," and when it did, truly a miracle happened, one that General Bono cannot explain. The army of 1918, that won the major engagements of the time, certainly was not the backward and unprepared army of 1915. No, it was the nation in arms who had learned their lesson after three years of bitter fighting. There was more cooperation between line officers and their men, more cooperation between the General Staff, the high command and the junior line officers.

D'Estre, Henry.—**Les conquerants de L'Algerie (1830-1857).** [The conquerors of Algeria (1830-1857).] Paris, 1930.....M 965

CONTENTS: Avant-propos; Apercu geographique et historique; Bourmont; Les premiers successeurs de Bourmont; Clauzel; Damremont; Bugeaud; Valee; Bugeaud Gouverneur general; Les Princes; L'Algerie sous la deuxieme repuglique; Randon; Les grands collaborateurs des gouverneurs; Les collaborateurs de deuxieme plan; Conclusion.

REVIEWED BY MAJOR W.H. OGDEN

This book contains a series of interesting and instructive biographical sketches of the principal officers of the French Army, who were in command of, and who served with the French Colonial Forces during the period 1791-1858. Although it is primarily concerned with the lives and work of the three great Frenchmen, Bourmont, Randon, Bugeaud, and their associates, the author describes in some detail the military operations involved, and the political results achieved through them. A geographical study of the territory, with its economic importance to the future of France; an historical outline of the character of the inhabitants of Algeria; and an account of the great service rendered by Algeria and its people to France during the World War, are included.

Elgood, Lt.-Colonel P.G.—**Bonaparte's adventure in Egypt.** London, 1931.....M 94405-J3-D

CONTENTS: Preface; Prologue. Revolution; Early years; Italy; Genesis of the Egyptian Expedition; The voyage; Egypt and the Mamelukes; The march on Cairo; The battle of the Nile; Insurrection; Circe; War clouds; The Syrian speculation; Departure; Evacuation; Bibliography; Index.

REVIEWED BY MAJOR P. MENOHER

An interesting account in narrative form of the expedition to Egypt. The "Correspondence" has been the principal source from which material has been obtained.

The accounts of the engagements except for "Aboukir" are more or less general in nature. The background for the expedition and the political situation are given in detail.

Of general interest to all students of military history and of special interest to anyone studying the campaign in Egypt. Maps and a bibliography are appended.

Elgood, Lieutenant-Colonel P.G.—**Egypt and the Army.** 1924 .....M 9403-J.56-P

CONTENTS: Preface; Attitude of Egypt at the outbreak of war; Growth of discontent with the British occupation; First effects of war; The Suez Canal; Martial law; Turkish preparations and attack upon the Suez Canal; The Suez Canal zone in 1915; Armenian refugees; Egypt in 1915; The Army and the civil administration; Discipline in a theatre of war; The desert campaigns; Civil administration in 1916; Contre-Espionage; War grievances of Egypt; Rebellion; Index.

REVIEWED BY MAJOR J.C. MULLENIX

This book is an interesting account of the Egyptian effort to escape from British occupation of that country. It explains Egyptian conditions at the outbreak of the World War in 1914 and traces the growth of discontent with the British occupation prior to the War. The author points out that the Egyptian people had only a slight interest in the World War but, through association with Great Britain, were dragged into it, and that many factors incident to the War such as the restrictions on food commodities and the imposition of martial law, aggravated the discontent. He describes the Suez Canal and points out that security of passage through the Canal was a matter of life and death to the British Empire. He explains the Turkish attacks on the Canal and the subsequent British decision to reinforce the troops who were defending the canal against the Turks. The author briefly traces the desert campaigns and points out that Egypt was primarily interested in expelling the Turks from Sinai and when the

Egyptian Expeditionary Force advanced into Palestine this action became a source of grievance to Egypt. Coupled with this grievance, he describes a number of other sore points that stirred Egypt into a bitter hatred of British authority that finally developed into serious rioting and passive resistance. He states that the book professes to speak only of the influence of the World War on Egypt and points out that in order to understand the progress of Egypt to independence, a student must possess some knowledge of the history of the country during the War. Incidentally, the British Protectorate over Egypt was terminated early in 1922 and Egypt was declared to be an independent sovereign state.

The book is well worth reading in order to understand the influence of World War conditions upon Egypt. It is of some specific interest to the G-4 Section as it bears considerably on factors relating to the supply of the Turkish Armies in Syria and Palestine. It is also of some interest to students of leadership as it decribes at some length the activities and operations of the resourceful Colonel Kress von Kressenstein with the Turkish forces.

Fortescue, Sir John W.—**Following the drum.** London, 1931....M 942-C

CONTENTS: Preface; Gibraltar under siege, 1727; The Roses of Minden; The militia in the year of Minden; A conqueror of France; An ensign on Wellington; Memoirs of a saddler sergeant; Wolseley; Kitchener; Horace Smith-Dorrien; Early days at St. Helena.

REVIEWED BY MAJOR A. VOLLMER

In this volume of miscellany the author of the "History of the British Army" shows the gift of so editing the often very dull diaries, which he has unearthed, that the result is delightful.

"Gibraltar under siege 1727," from a diary by an unknown "S.H.," gives a record of garrison life during this period. The conditions among the soldiery were outrageous but as presented by the diarist and interpreted by the editor, should give anyone a laugh. Their apogee was found in the "whirligig," a rotating cage, for the chastening of the women camp followers who came to the "rock" like the locusts from Africa.

The "Roses of Minden" were the six British regiments under Ferdinand of Brunswick who went to the aid of Frederick the Great against the French, and won the victory of Minden on Aug. 1, 1759. A letter from H. Montgomery, an officer of one of these regiments to his mother, affords a lively and frank account of this affair.

In the "Militia in the year of Minden," a mere regimental order book serves, in Fortescue's competent hands, to give a picture of garrison life at home while triumphs were being achieved abroad. "News had come in that Knox had stormed Masulipatam, that Barrington had conquered Guadeloupe, that Ferdinand of Brunswick had beaten Contades at Minden, that Wolfe had beaten Montcalm at Quebec, and that Hawke had vanquished Conflans in Quiberon Bay."

In "A conqueror of France," Corporal George Robertson in letters to his family in England, tells of the British expedition in 1793 against France.

"An Ensign on Wellington," based on letters home, gives the opinion of an ensign of the Coldstreams on the campaigns of 1811 and 1812.

The most entertaining essay, the "Memoirs of a Saddler Sergeant," covers the latter part of the Peninsular War, the Waterloo campaign and garrison duty in India. Saddler Sergeant Bennett, of fair education, was a soldier de luxe, an inveterate sightseer, but drink caused his downfall. The excerpts from his autobiography, which Fortescue winnows out for us, show him to have been a pretentious and romantic figure, and they provide an intimate picture of his times.

The last three essays, but one, are on Wolseley, Kitchener and Smith-Dorrien. Fortescue's views are always couched in the best style of the true historian. While presenting the favorable as well as the unfavorable

about each, he leaves one with a real picture, not a mosaic. The essay on Smith-Dorrien aroused much attention when first published, as a veritable re-estimate of this general. Unquestionably Fortescue ranks him with the most competent of Britain's military leaders. He credits him with saving the whole situation in the retreat from Mons and with preventing von Kluck from the outflanking which the latter later said, in a generous tribute to the British, "would have won the war." The essay on Wolseley enshrines him as the soldier since Wellington to whom the army owes most.

Fortescue's estimate of Kitchener is adverse and has been unwelcome in many quarters in England. He calls him a grand public servant, a true patriot, a great driving power, an indefatigable worker, but a better civil administrator than military chief, and best of all as a diplomatist. He finds in him inadequate knowledge of the capabilities of the army's branches, ignorance of its history, ignorance of historical examples of operations he undertook, no glimpse of staff team work as a potent force. Keeping all the reins and information in his own hands succeeded in Africa in earlier years, but it was not the method needed in the vaster undertakings of the World War. "He knew of but one direction—his own." He cannot be put "in the first rank among British soldiers and statesmen."

A short essay on "Early Days at St. Helena" completes the volume—an account of early dissensions in that spit of land, a thousand miles from nowhere, as revealed by the records, 1673 to 1834, dissensions in which apparently the chaplains and doctors were always involved.

Germany. Reichsarchiv.—**Der Weltkrieg 1914 bis 1918.** Kriegsrustung und Kriegswirtschaft. [The World War, 1914-1918. Preparation for war and war industries.] Vol. I and Supplement to Vol. I. Berlin, 1930 ..... M 9403-E4-E.43-C

CONTENTS: Preface; Introduction. A—The military arming of the Empire: The German Army in the time of Emperor William I; The development of the German Army from the accession to the throne of Emperor William II to the 20th Century; Evolution of the army in the first decade of the 20th Century; The development of the German Army from 1912 to 1914; The development of armament and equipment. B—Industrial preparation of the Empire: War industry preparedness measures from 1883 to 1906; Investigations during 1906-1912 into the subsistence situation of Germany in a war; Increased seriousness of the industrial situation of Germany in a war; The creation of a standing commission for industrial mobilization in the National Department of the Interior in 1912; The conceptions in official circles of Germany's industrial situation in war; Inquiry during 1912 to 1914 into the subsistence supply of Germany in war; The war industries and the maintenance of industrial production in war; Maintenance of agricultural production in war; Measures taken July 1914. C—Financial preparation of the Empire: The determination of the financial requirements in the Franco-Prussian War 1870 71; The financial preparedness of the empire during the Chancellory of Count Bismark; The influence of Finance Minister, Dr. Miquel, on financial preparedness from 1890 to 1900; The adjustment of the financial preparation to the industrial development of the Empire, 1900 to 1906; The development of the financial preparations from 1906 to 1911 and the recovery of the national finances; The further strengthening of the financial preparations from the Balkan Wars of 1912 to the outbreak of the World War; Retrospect; Bibliography; Index.

Part II. Appendix.—Preface; Section 1, Documents. A—The military arming of the Empire (annexes 1 to 67); B—The industrial preparation of the Empire (annexes 68 to 86); The financial preparation of the Empire (annexes 87 to 101). Section 2, Appendix to the military arming of the Empire: The development of the separate branches in the organization of the German Army; From the foundation of the Empire to 1888; From 1888 to 1900; From 1900 to 1911; From 1912 to 1914. Section 3, Tables and sketches to accompany the military arming of the Empire.

REVIEWED BY MAJOR A. VOLLMER

As can be seen from above table of contents, this work is a detailed history, in each period, of the development of preparedness for war in Germany, from the foundations of the Empire to the outbreak of the World War, showing the continuous controversy between the German General Staff and the Chancellor and legislature concerning army increases. The account includes, separately, the military, industrial and financial parts in this preparedness. In each field, inasmuch as it is part

of the German Official History of the World War, it is the most authoritative source book and of the highest value to both G-2 and G-4 Sections.

Germany. Reichsarchiv.—**Der Weltkrieg 1914 bis 1918.** Band VIII: Die operationen des jahres 1915 im westen im fruhjahr und sommer, im osten bis zum jahresschlusz. [The World War 1914-1918. Vol. VIII: The operations in 1915—spring and summer on the West Front, and from the spring to the end of the year on the East Front.] (Official German history of the World War.) Berlin, 1932.....M 9403-E4-E.43-C

CONTENTS: I. The situation of the Central powers in May 1915; II. The concentrations and early battles on the Italian Front; III. The West Front from the middle of April to the beginning of August 1915; IV. The war against Russia in the summer and fall 1915—(A) The front of the Eastern Supreme Commander to 2 July, (B) The summer campaign of the Allies in Galicia, (C) The offensive of the Eastern Supreme Commander against the Russian Narew Front, (D) The offensive of the Allies against Brest-Litovsk, (E) The Russian Supreme Command to the end of August, (F) The operations of the Eastern Supreme Commander against Vilna, (G) The occupation of the permanent position and the events to the close of the year in the East, (H) The pursuit of the army groups Mackensen and Prince Leopold after the fall of Brest-Litovsk, (J) The right army wing from the middle of July to the end of the year, (K) The Russian Supreme Command from September to December 1915; V. The war on several fronts in the summer of 1915; VI. Retrospect of the conduct of the war against Russia by General Falkenhayn; Appendices; Indices.

REVIEWED BY MAJOR A. VOLLMER

This is the second of the three volumes to be devoted to the year 1915. It deals with the operations on the Eastern Front from the time of reaching the San to their completion in the winter. Of the events in the west the gas attack at Ypres, from 22 April to 9 May, and the Anglo-French offensive in Artois, from 9 May to the end of June, are given prominence. Inasmuch as the main effort was on the East Front, the defensive on the other fronts was of great importance. This was a tremendous undertaking with an Allied superiority in France of 600 battalions and in Italy of 140 battalions. In the east the Russians had a twofold superiority.

The difference of opinion between Falkenhayn and Conrad von Hotzendorff as to the strategy to be employed on the Eastern Front and against Serbia is considered. It is shown that the situation was affected by the growing uneasiness in the United States on account of the submarine campaign, and the questions of subsistence and replacements for the German forces.

It portrays the further serious difference of opinion as to the strategy to be employed against the Russians, that is as to where the 1915 offensive was to occur. The Kaiser on 2 July decided for the Falkenhayn view as against Hindenburg—Ludendorff. It is the opinion of the Reichsarchiv, expressed in this volume, that Hindenburg should have been given a free hand, that his proposed plans were sound, that Falkenhayn was mediocre in the measures attempted.

All of the details are presented in the usual clear judicious manner of this most authoritative work of the Reichsarchiv. While the exposition is a full unprejudiced account of all factors, plans, and events, it is undoubtedly the well considered opinion of the authors, that the failure to bring about a decision in the Russian Theater, so imperative at this stage of the War, is to be laid at the door of Falkenhayn, and that, further, the proposed plans of Hindenburg, if concurred in early enough, would have brought about such a decision.

With this VIIIth volume the Reichsarchiv has completed more than half of its program. The closing events of 1915 will be presented in the IX volume. To cover the years 1916-1918, five volumes are projected.

Guigues, Commandant.—**L'instruction du soldat en vue du combat.** [Instruction of the soldier for combat.] Paris, 1931.....M 404-J

CONTENTS: Avant-Propos; L'instruction du soldat en vue du combat: Considerations generales; Enseignement prealable de certains exercices elementaires; Procedes d'instruction; Transmission d'un ordre ou d'un renseignement; Les indices; L'emploi des armes au combat.

REVIEWED BY MAJOR R.C. SMITH

In this small volume, the author discusses some methods of preparing the infantry soldier for combat. He limits his remarks to the period of instruction of the individual and of the small combat units up to the platoon. He emphasizes that this basic instruction is the foundation upon which the instruction of larger units must be grounded.

The general scope of the book covers approximately the same sort of instruction that is given in our training regulations on "Musketry."

The necessity for team-work is brought out. The unit is not the individual soldier but rather the squad. Individuals must receive training but they will apply it as members of a combat team.

Terrain is of importance to the soldier of every rank and in every military operation. Instruction should be designed to develop soldiers who can use terrain to the best advantage under any conditions. Instruction in the use of weapons should be tied in with use of ground. The soldier must be taught (1) to locate objectives and to open fire on them when circumstances make this desirable, (2) to operate, mount and dismount his weapons in the dark, in all kinds of weather and on all types of terrain, (3) to estimate distances.

The individual must also receive instruction in the duties of scout, observer and runner or liaison agent.

The author discusses detailed methods of giving the instruction and includes suggested programs. The list of exercises in the use of terrain is particularly valuable.

Considerable attention is given to teaching the soldier to locate himself on the ground, by day or night, with or without map; to marching by compass across country, and to marching by night over strange terrain.

Attention is given to teaching the estimation of distances. The methods seem to be in general harmony with those used in musketry in instruction in our own training regulations.

The author emphasizes the value of using actual targets such as groups of riflemen, automatic rifles, machine gun groups, observation posts, etc., in estimating distances. It is not enough to get ranges to trees or steeples or buildings.

Target designation follows range estimation. Here again, practical field targets are used.

Considerable attention is given to transmission of orders and information. Beginning with commands and signals within the squad, at short distances, the distances and difficulties are increased until satisfactory results can be had at night or through woods and over distances up to 500 yards. The receiver is taught always to acknowledge or repeat back the message.

Thorough training in observation is given each individual. He is taught to recognize different sounds, the appearances of objects by their reflections in the sunlight, the appearances of kitchen fires, the significance of smoke of various sorts, and evidences left by old camp sites, etc. In connection with this training, the soldier learns to avoid acts that will betray his own movements to an enemy.

The final phase of training is what we know as combat exercises. The French place the emphasis on using the automatic rifle of the squad for fire effect. All other weapons of the squad should be used to gain greater effectiveness for the automatic rifle.

This book is of interest to infantry officers in connection with musketry training. The section on terrain study is of general interest.

Inter-Parliamentary Union.—**What would be the character of a new war?** Enquiry organised by the Inter-Parliamentary Union. London, 1931.....M 502-C

CONTENTS: Preface; Biographical notes; The general military character of a future war; The decisive aggressive value of the new agencies of war; The "war potential"; Internationa-ramifications of war industry; Protection and defence against the new methods of warfare; Effect of a new war on the mentality and the morale of the civil and military population; Demographic effects of war on the population during and after a war; Importance of the financial forces of a country for carrying on war; Financial consequences of war and of preparations for war; Effect of war on the world system of economics and finance; Chemical and bacteriological warfare; Future of international law on warfare.

REVIEWED BY MAJOR S.C. GODFREY

"Every future war is a sphinx until the first shot is fired." While recognizing this fact, the authors of this volume have made a suggestive and valuable contribution in discussing possible military developments of the future. The book has been compiled by the Inter-Parliamentary Union, which for more than forty years has been active in the service of peace and international cooperation. It represents many different viewpoints—economists, financiers, scientists, psychologists, as well as military men representing eight different nations, were invited to state their opinion freely.

As might be expected, the opinions of the various authors differ quite widely. General Fuller's discussion of the Mechanization of Warfare is along the line of previous articles of his familiar to military readers. A number of authors, including General Metzsch (Germany), are particularly impressed with the dominant part which they believe the Air Force will play in a future war, and visualize the war as involving the bombing of masses of civilians, and a struggle for supremacy in the air. Others think that chemical warfare will be the greatest factor in a future war. The evidence cited to support these various views is in some cases exaggerated and unconvincing.

Some of the discussions of special phases of a future war are illuminating. Professor Hersch (Switzerland), presenting statistics of personnel in the World War, states that France, for example, lost nearly one fourth of her men between 20 and 25 years of age, that the nation was thrown back 60 years thereby, and that another such war might well mean an irremediable set back to the Western peoples and a decay of their civilization. The "war potential" is discussed at some length, together with various economic and financial problems of war. Nicolas Poliks (Greece), discussing the future of international law, concludes that it will never be possible, by regulating war, to avoid or reduce its horrors and cruelties.

In general, the trend of the discussions is to stress the devastating effect that new agencies may have in a future war, and the tendency toward even greater and more wide-spread suffering from war than in the past (as for example the idea of "mass murder of the civilian population," by aerial, chemical, and bacteriological means). Several authors, including General Fuller, express the thought that this increasing horror of war, this shifting of danger to the civilian as well as the fighting man, will eventually cause such a reaction against war as to result in the establishment of universal peace.

Leigh, James.—**Nomads in Flanders.** The romance of an M.T. Column. London, 1931.....M 9403-B4.42

CONTENTS: The echoing years; A question of mottoes; A woman of France; The protective Lance-Corporal; An unreported casualty; The mystery of the missing uniform; Badger goes to war; For valour; The spy; The wife of Pierre Grospied; Testing a trailer; Many things happen in war; An international tribunal; Full circle; Expiation; Echoes again.

REVIEWED BY MAJOR A. VOLLMER

An addition to the personal narratives of the World War from a member of a British Mechanical Transport unit. Written in lively style

and punctuated with varieties of British dialect, but staying to drab realities without any romantic strain.

The personal side of the account in Colonel Beadon's official history of the Royal Army Service Corps.

Of no particular value to any of the Sections.

Nitobe, Inazo.—**Japan.** Some phases of her problems and development. London, 1931 ..... M 952

CONTENTS: Foreword; Preface; Geographical features with special reference to their social and economic influences; Historical background; Emergence of New Japan; Government and politics; Educational system and problems; Labour, food and population; The thought life of the Japanese people; Bibliography; Index.

REVIEWED BY MAJOR K.F. BALDWIN

This book is one of the volumes of the modern world series giving a survey of historical forces with the aim "to provide a balanced survey, with such historical illustrations as are necessary, of the tendencies and forces, political, economic, intellectual, which are molding the lives of contemporary states." In its aspect of the political, educational, economic and spiritual situation in Japan and in basic consideration of the geographic conditions and historical development, this volume is most timely, is fully up to the aim mentioned above, and there has been nothing its equal published for many years. Such subjects as International Relations, National Defense, Overseas Possessions and Contemporary Literature are barely mentioned however, and would have added much to the value of the work.

Dr. Nitobe, educated in America, is married to a Philadelphia Quaker and is himself a Quaker. He was recently a secretary to the League of Nations and is a skilled educator. His "Bushido" is world famous. His English in the present volume is superb. He is a master of its use, and his deep understanding of Japan and the English-speaking countries combine to make this a very authoritative volume. He is more optimistic as to the ultimate Christianization of Japan than most Japanese.

Speaking of the United States Exclusion Act of 1924 he reflects the best Japanese opinion when he states: "No statesman believes that the anti-Japanese clause can be exaggerated into a CASUS BELLI; but the evil it has done is the vitiation of mind by the loss of a noble trust in a friend, a confidence in a cause . . . Japan still holds to her faith in the integrity and sense of honour of the American people as a whole and is patiently abiding the time when Congress may change the law."

The book as a whole paints a brighter picture of present-day Japan, and a more optimistic prediction for the future than that given by most occidental writers.

Recouly, Raymond.—**Joffre.** 1931 ..... M 9403-E4-D.44-B92 (JO)

CONTENTS: The battle for mobilization; The scope of the Commander-in-Chief; From Rivesaltes to Indo-China; Joffre, colonial soldier; How Joffre was named Generalissimo; Joffre at General Headquarters; The celebrated Plan XVII; The triple defeat on the frontier; Joffre the builder; The maneuver of the Marne; Joffre during the battle; The significance of the battle of the Marne; Pursuit and stagnation. The battle of Flanders; Joffre and the supreme command of the war; Joffre at Chantilly. His visit to the front; The offensives of 1915; Joffre and Verdun; Disappointment and disgrace; The problem of Joffre's successor; The sad departure from Chantilly; Joffre in the United States; Declining years and death; Joffre and the great captains of French history.

REVIEWED BY MAJOR R.C. SMITH

There are two schools of opinion about Joffre. To one, he was a phlegmatic, slow leader who owes his reputation to a chain of circumstances. To the other school, he was far-sighted, patient and steadfast. The British writer, Liddell Hart, has stated the case for the first group; Raymond

Recouly in this book presents the argument for Joffre's admirers. And it must be admitted that he makes a very convincing case for the hero of the Marne.

He gives a picture of Joffre:

> "At the outbreak of the war Joffre was sixty-two years old. His physical and intellectual faculties were at their height. His tall frame, his vigorous build, his wide shoulders gave an impression of massive strength, healthy and well-knit. He enjoyed excellent health. His long years in the colonies, his campaigns in the African bush, far from taking a toll of his strength, had built it up. His appetite was keen, his digestion excellent. He slept soundly, and allowed nothing, saving the most exceptional circumstances, to interfere with his rest. These physical qualities assume a very real importance in the Commander-in-Chief of a huge army such as the one Joffre was to command, the most numerous military force ever before placed under the orders of a single human being. An ailing general cannot command a smoothly running army."

He quotes Napoleon's specifications for a commander:

> "The first quality a commanding general should have is a cool head, capable of registering exact impressions of objects as they are. He must never become excited, never allow himself to be dismayed or overjoyed by bad news or by good. The sensations, either successive or simultaneous, which impress themselves on his mind in the course of a day, he must know how to classify mentally so that they occupy no more than the proper share of his attention; for good judgment and good reasoning are the result of the mental comparison of several different sensations taken into equal consideration. There are men . . . who make a tableau of everything. Whatever knowledge, whatever mental ability, whatever courage or other good qualities they may have otherwise, nature never intended them for the command of armies or the direction of operations of war."

Joffre exercised his command by maintaining personal contact with his subordinates. He used liaison officers to good advantage and he made many personal visits. The contrast between the German GHQ and the French GHQ during the early weeks of the war is very marked; Moltke was out of touch with his commanders much of the time, while Joffre knew what was going on.

The author discusses in considerable detail the relations between the soldier and the statesman in the early part of the war (Chapter XIV). He also comments on the difficult situation caused in the French Army by the fact that most of the younger members of the Chamber of Deputies were at the same time in active service in the army (pp. 252-257).

> "As soldiers, they were subjected, just like all the rest, to strictest discipline, forced to execute the orders of their superior officers without discussing these orders or answering back. As deputies, they felt themselves, and with reason, to be all powerful, clearly the superiors of their commanding officers and even of the Generalissimo, who in the final analysis, drew his authority solely from the Government, or in other words, from these very deputies. Men being what they are, with their passions, their sympathies and their antipathies, their preferences, and their prejudices, it was ridiculous to expect these men to be able to keep a strict line of demarcation between their military duties and their parliamentary prerogatives."

The author comments on the disputes as to whether Joffre or Gallieni is entitled to credit for the plan of the Battle of the Marne. He is satisfied that the plan was Joffre's. In connection with this he adds:

> "The differences which arose between these two great generals (Joffre and Gallieni) who had known and admired each other for many years, arose less from themselves than from their subordinates. No one who has not lived the life of a military General Headquarters

can realize how easily a coterie can grow up there. Keen, zealous young men, used to working and even thinking in common, are inclined to defend their chief with a sort of mystic fervor; they soon become 'more royalist than the king.' Every general who ever worked with a Staff found himself thus surrounded with a certain number of zealous disciples, sensitive to the slightest criticism of the master whom they instinctively tried to shield from the outside world. They create about him an atmosphere somewhat like the train of cardinals who live in the shadow of the Vatican."

The matter of munitions supply was a greater limiting factor in operations in 1914 and 1915 than is generally realized.

"Foch reveals one of Joffre's main preoccupations at this moment and during the few months following. There was a most acute shortage of munitions for the artillery. Joffre while waiting for the rate of production in the munition factories to be stepped up, which was bound to take time, had prescribed the strictest economy in munitions along the whole front. But to give orders was one thing, and to see that they were executed, as he knew, was entirely another. He himself undertook the enforcement of this economy. At the end of each day he demanded from every one of his units an exact accounting showing the number of rounds of ammunition on hand. He never went to bed without first making sure that these statements were in order. If anyone had gone over the stipulated allowance, he was punished with the most severe disciplinary action. This was the only way to guarantee a sufficient reserve of shells to make out somehow or other for the coming battle. Without this precaution, disaster might have followed."

The chapter on Verdun is interesting as showing the use made of Petain and his staff. The staff of the Second Army was in reserve. It was moved in, intact, to take over from General Herr.

The relations between Foch and Joffre are described as most friendly. There is much to suggest the cordial teamwork of Grant and Sherman in the Civil War.

In the final chapter, the author sums up his analysis of Joffre:

"Joffre was a French peasant, in the fullest and best sense of the word. He was that in all his qualities and defects, in all his greatnesses and all his weaknesses. To understand what this means, one need only have lived in rural France, and come in contact with its inhabitants.

"City-bred people, people who are too critical-minded and too sophisticated, are apt to misjudge this man entirely. They think him of a doltish type, phlegmatic, unintelligent and uninteresting. They forget or ignore his great deeds, his extraordinary victory, explaining it away by thinking and saying that it was won without his realizing what was going on, won regardless and in spite of the General in command.

"The simpler, humble folk of France, on the contrary, showed themselves aware of his greatness and his glory from the very first, because they were on the same footing as he. Like the peasant, Joffre was taciturn, keeping his thoughts to himself, hiding his feelings, disliking to tell his business to any one. So his actions were marked by a prudence and reserve, a sort of mixture of timidity and defiance.

"When one of his officers handed him a document to sign, a recommendation to approve, he was like a farmer faced with a formidably legal-looking paper, heavily impressed with notary's seals. He would turn it over and over, inquiring into every minute detail, fearful lest some hidden trap or ambush might escape him. After reading it again and again, he would stall off sometimes as long as overnight before he would affix his signature to it . . .

". . . Strategy, properly speaking, the movement of armies upon the chessboard of battle, had been transformed prodigiously since

Napoleon's time. With the ten- and twenty-fold increase in numbers of combat units, the art of strategy became at the same time simpler and more complex. Simpler, because there were now so many soldiers in the field that the front became continuous, stretching uninterruptedly over hundreds of kilometers. Thus, with a line of opposition to be encountered at no matter what point he directed his attack, the enemy was bound to find his maneuvers more difficult of accomplishment. On the other hand, it had become more complicated, because this enormous mass of combatants, in order to be transported and furnished with the necessary supplies, brought innumerable new factors into play: railways, fleets of trucks and cars, which naturally made the task of the Commander-in-Chief all the heavier.

"Joffre managed his gigantic organization with admirable skill, attending perfectly to the minutest details, and squeezing from it the last ounce of efficiency.

"He did not have any of the agility and fertility of mind that characterized Foch. Joffre's qualities were of another kind: an exceedingly sure and sane judgment of strategic situations and necessities, an intuition sometimes amounting to genius at divining and forestalling the enemy's intentions, the practical application of simpler and more direct methods.

"His maneuver of the Marne, with all its careful and minute preparations, involving the revision of his original plan of battle, which he was quick to see had been faulty, was nothing less than a masterpiece. In the confusion of a long and hasty retreat, he perceived the likelihood of the decisive action's taking place on his left flank, and performed the superhuman task of reenforcing the weak sectors, transporting great masses of troops, and creating the completely new army of Foch, without a single slip. . . .

"His qualities as a man and as a citizen were on the same level with his talents as a commander. He was balanced, sensible and reasonable, he never lost his head. He remained respectful of the laws and of the Government. He had not the smallest taint of personal ambition; on the contrary he had a perfect horror of the spirit of publicity and grandstand playing. Never once did he abuse the enormous power which circumstances, the war, and victory had placed in his hands.

"Despite the fact that he had such good reason to believe that he had been unjustly and ungratefully dealt with by the Government, not one word of reproach, of protest, or even of ill humor passed his lips.

"Respect for the rule and for discipline, a rare sense of duty, these are the things of which loyalty is made. If a military leader wishes to exact obedience from his subordinates, he must begin by setting them the example in his behavior towards the Government upon which he depends. This Government may have its faults and weaknesses; but, until otherwise proved, it is the qualified representative of the country, the expression of the national will.

"Here again we see the sum of his master qualities: straightness of character, infallible sureness of judgment, high sense of duty and moral responsibility, reason and common sense."

Every military student will find this book worth reading.

Seton-Watson, R.W.—**Slovakia then and now.** A political survey. London, 1931 ..... M 9437

CONTENTS: Preface; Introduction. Czechoslovakia and the Slovak problem; The political evolution of Slovakia; The cooperation of Slovaks and Czechs in war and revolution; Cultural progress; Education in pre-war Hungary and in Slovakia to-day; Slovak literature; Slovak art; Slovak music; The influence of religion and Catholicism on states and individuals; The Catholic Church; The Modus Vivendi with the Holy See, and its effects; The Lutheran Church;

Administrative problems. A. The old Hungarian system; Administrative problems. B. The period of transition; Administrative problems. C. The new autonomy; Judicial problems. A. The old system; Judicial problems. B. The reorganisation of justice; Economic progress; Public works; Banking and finance; Working class problems and social legislation; The land question; The role of the towns and municipal government; The minorities; The contribution of the Czechos to the Slovak freedom; Slovakia's place in the new Europe.

REVIEWED BY MAJOR A. VOLLMER

This is the most complete survey of Slovakian affairs yet published in English. The editor's general discussion is followed by statements by twenty-five experts—all Slovaks—on the political evolution, cooperation of Slovaks and Czechs in war and revolution, cultural progress, education, literature, art, music, religion, administrative problems, judicial problems, economic progress, public works, banking and finance, social problems, the land question, municipal problems, and the question of minorities.

Notwithstanding the formidable ambitious structure of this compilation it proves to be very easily read. The whole goes to show that conditions are vastly improved and generally satisfactory.

Survey of American foreign relations, 1931. Edited by Charles P. Howland. 1931.....327.73 (A)

CONTENTS: Preface; Mexico and the United States: The Mexican background; Economic relations; Mexican land legislation; The oil controversy; The Mexican debt problem; Mexican immigration; Labor; Claims; Church and state in Mexico. World order and coordination: Limitation of armament. Post-war financial relations: The Bank for International settlements; The Mixed Claims Commission, United States and Germany; The war claims of American nationals against Austria and Hungary. Appendix; Index; Maps.

REVIEWED BY MAJOR K.F. BALDWIN

This is the fourth volume of the series published by the Council of Foreign Relations of which Elihu Root is Honorary President and Charles P. Howland is director of research for this work.

Two thirds of the volume is devoted to Mexico and its relation to the United States with an excellent historical background on Mexico. There is a mass of well digested material upon investments, land legislation, oil rights, immigration, the ecclesiastical controversy, the American policy, and many other points on Mexico and its problems with America.

More than one hundred pages are devoted to the Limitation of Armaments with special reference to the London Naval Conference. This is ably covered. Quoting from the volume: "The victory which the democratic forces won in the ratification of the Treaty of Japan is more significant than the act implies. It means that the Japanese Navy has followed the Army into a position of subordination to the civil administration of the country in directing its foreign policy. It marks the decline of militaristic power and the ascendancy of constitutional government." Recent events in the Far East show the futility of such a conclusion at this time.

The remainder of the book is devoted to the Bank for International Settlements and includes the completion of "The Mixed Claims Commission, United States and Germany."

The volume is well written, very authoritative in most particulars, and continues the present well established series.

Unter dem Stahlhelm. Band 4: Um Finnlands Freiheit. [Under the steel helmet. Vol. 4: For Finland's freedom.] Germany, 1932 .....M 94710

CONTENTS: Finnlands Not und Deutschlands Hilfe; Von Hangö nach Helsingfors; Von Lovisa nach Lahti; Der Vormarsch der Ostseedivision auf Riihimäki; Die Einkreisung der roten Garde zwischen Tavastehus und Lahti; Anlagen.

[Finland's need and Germany's aid; From Hangö to Helsingfors; From Lovisa to Lahti; The advance of the Baltic Division to Riihimäki; The encirclement of the red guard between Tavastehus and Lahti; Appendices.]

REVIEWED BY MAJOR A. VOLLMER

This book tells the story of the undertaking in Finland in 1918 in which, under the command of Count von der Goltz, the German units

cooperating with the White Corps of General Mannerheim, suppressed Bolshevism. It portrays in simple soldier language the adventurous battles as well as the background of the Finnish landscape with its woods and lakes. Therein it reads like a novel. It serves adequately as a simple narrative of events.

In an Introduction, General von der Goltz recommends the book as an admirable unification of the detailed contents of the diaries of participants, and esteems it as of value for those who wish to learn from the small combats of an eastern campaign of movement.

Urban, K.—**Kurze zusammenstellung uber die Polnische Armee.** [Resumé of organization of the Polish Army.] Germany, 1931 ..... M 205-C.438-B5

CONTENTS: Entstehung der polnischen Armee; Gliederung und Stärke der Armee; Gliederung, Stärken und Bewaffnung der einzelnen Waffengattungen; Wehrpflicht, Ersatzwesen; Offizierkorps; Unteroffizierkorps; Die militärischen Schulen und Lehrgänge; Bekleidung und Ausrüstung, Rang- und Waffenabzeichen; Ausbildung und Grundsätze fur Führung und Gefecht; Wert der Armee; Grenzschutz—Grenzschutzkorps, Grenzwacht und ziviler Grenzschutz; Die militärische Ausbildung der Bevölkerung auszerhalb des Heeres, Militärvereine; Festungen; Verkehrswege; Rüstungslage; Heereshaushalt; Militär-geographische Angaben über das polnische Gebiet; Masze, Gewichte, Münzen; Topographische Zeichen und sonstige Bezeichnungen auf polnischen Karten; Taktische Zeichen; Die wichtigsten taktischen Abkürzungen; Bilder und Uniformtafeln.

REVIEWED BY MAJOR C.A. WILLOUGHBY

This booklet, already in its second edition, is an authoritative summary of the organization of the modern Polish Army.

A brief review of the historical origin of this Army (1914) is followed by a systematic account of the formation and structure of larger units, territorial distribution (with map), organization, armament and equipment.

The wealth and detail of the highly condensed information can be appreciated by the chapter-headings:

1. Origin of the Army;
2. Organization and strength;
3. Organization and equipment of the arms;
4–5–6. Officers, noncommissioned officers, enlistments;
7–8. Educational system;
12. Training of civil population;
17. Military geography of Poland.

Tactical principles, training methods and doctrines are also covered briefly.

The booklet gives a clear picture of the status of this Army and its military potentiality. It should be of value to the G-2 Section as a factor in the military-political situation of Europe.

War Department. Chemical Warfare Service.—**Suggestions for tactical field exercises involving chemical warfare materiel and munitions.** 1932 ..... M 423-J4

CONTENTS: Index; Preface; Influence of smoke on aimed rifle fire; Smoke to cover an infantry attack; Smoke to cover an infantry withdrawal; The use of smoke in river crossings; The use of smoke in cavalry attack; The use of smoke in cavalry withdrawal; Influence of smoke on artillery fire; Influence of smoke and gas on antiaircraft artillery fire; The use of non-persistent gas in preparation for hostile attack; The employment of gas in counterbattery fire; The employment of gas in interdiction fire; The employment of gas in harassing fire; The use of gas and smoke against coast defenses; The influence of smoke and gas on a motorized column.

REVIEWED BY LIEUTENANT COLONEL A. GIBSON

In the training of troops it is highly desirable to reproduce on the terrain conditions that are as closely analogous to those of war, as can be done without undue expense or danger to the troops.

With most matériel and munitions the expense and danger limit greatly their use in tactical field exercises.

Chemical warfare matériel and munitions are peculiarly adapted to reproduce on the maneuver field, without danger and with the minimum of expense, many of the effects on vision, physical endurance, communications, and morale, that would be produced in war. For example, while wearing the gas mask we estimate that a soldier's physical efficiency is reduced between 25 and 50 per cent.

The giving of commands and the control of a body of men are interfered with greatly. The physical endurance and morale are lowered greatly.

A battalion commander may know this theoretically, but the actual handling of a battalion in a tactical field exercise, under conditions that require the wearing of the mask over a period of time, under varying conditions, will bring home to him what modifications those conditions will make in the handling of his men as nothing short of war could do. Higher commanders may likewise see for themselves what they may reasonably expect of troops when handicapped by wearing the gas mask. In addition the chemical warfare service will learn how suitable the gas mask, as now constructed, actually is for war use and what modifications, if any, should be made in the mask.

The general tactical use of smoke in war was being developed for the first time in the World War. The increased fire power of weapons and improved means of observation make the future importance of smoke very great. Few officers know from actual experience the powers and limitations of the tactical use of smoke.

Chemical munitions can produce on the training ground, without great expense and without danger, effects closely analogous to those of artillery or of chemical mortars firing smoke. An officer who has actually handled a battalion maneuvering with either the handicap or the assistance of smoke, will gain an appreciation of its tactical value as nothing short of war would give him.

This manual contains fifteen examples of tactical field exercises applicable to units not larger than a battalion, and so drawn as to be suitable for terrain available at the average post. The chemical means and methods are such as are practicable of use in normal training.

The purpose of the exercise, the means to be used, the methods, and the principles to be demonstrated form a part of each exercise.

It is believed these tactical exercises afford definite, valuable suggestions for use in chemical warfare training throughout the service.

By the use of these exercises as a logical integral part of field training, in which chemical warfare means and methods are coordinated with the normal means of combat, officers and men will gain experience that will approach more closely the realism of war than is possible in time of peace by any other methods.

This manual has practical value for all officers engaged in the training of troops.

Whitton, Lieutenant-Colonel F.E.—**The American War of Independence.** London, 1931 ..... M 9733-E

CONTENTS: Preface; The Colonies and a standing army; 1775: The beginning of hostilities; 1776: the year of Independence; 1777: the year of Saratoga; 1778 and 1779: the French Alliance; Britannia Contra Mundum; Notes.

REVIEWED BY LIEUTENANT COLONEL A. GIBSON

The author is an experienced British soldier who has written extensively on military history. His "Wolfe and North America" gave indications of his qualifications as a historian of our War of Independence.

In 318 pages he gives a most interesting, clear and impartial summary of the War of Independence. There is an extensive bibliography and the book is thoroughly documented. There are eleven sketch maps, nine of which are taken from Fischer's "Struggle for American Independence."

The author not only describes the fighting on the American continent, but brings out the fact that during an important part of the Revolutionary period England was at war with France, Spain, and Holland, the principal military powers of the world at that time.

While he gives great credit to George Washington he attributes the root cause of American success to the assistance rendered by France and Spain.

One of his rather unusual conclusions is that before its end the war had become preeminently naval. He quotes George Washington and Admiral Mahan to support this view.

In discussing the political aspects, George III is presented in a far more favorable light than that in which he is generally regarded by Americans.

This book is of interest and value to the general military reader because it is clear, brief, interesting, well documented and authoritative.

Williamson, James A.—**The evolution of England.** A commentary on the facts. 1931 ..... 942-A

CONTENTS: Preface; List of maps; Roman Britain; The Saxon settlement; The Feudal age; The decline of feudalism; The zenith and decline of the English Monarchy; Revolution and Empire; The Eighteenth Century; The great rift; Reform and wealth; The last half-century; Index.

REVIEWED BY LIEUTENANT COLONEL A. GIBSON

This book with 481 pages and 21 sketch maps covers the history of England from the earliest times to the year 1929. It has an index but no bibliography. An extremely valuable feature is that the book is sufficiently brief to make it practicable for the average reader to review English history or to cover the subject for the first time without being deterred by the mass of dates and details which ordinarily introduces too great time and space factors in other English histories.

It is not intended as a text book nor as an elementary treatise. Instead it presents to the adult reader who is not a professed student of history, those transactions which best illuminate the central theme, the development of the English community and of the country it inhabits.

It accomplishes brevity in part by eliminating an array of dates and relatively unimportant details. For example, the general character of wars and their significance, but not the details of battles, are recorded. The significance of the Navy in England's growth is brought out especially.

Prominence is given to geographical factors. Geographic circumstance, economic motive and political action are stressed as important to a reader who would understand how England came to be what she is today.

Professor W.E. Lunt of Haverford College, in reviewing the book, concludes that "The errors which are nearly inseparable from a summary treatment of so large a subject are neither numerous nor distressing."

This brief, authoritative and interestingly written history has value for any officer who desires to review English history or to bring himself up to date with reference thereto.

Yardley, Captain John.—**Parergon or eddies in Equatoria.** 1931 ..... M 9403-J:6

CONTENTS: Foreword; Preface; Africa in Nineteen-Sixteen; King Hussein I of Egypt; The riddle of Ethiopia; Cairo to Khartoum; Omdurman; Down south; To Torit under difficulties; The "Equats"; Warlike preparations; Uganda; Christmas Day on the Kidepo; White's tribulations; Kelere Peaks; The illness of Somerset; The rush to Lake Rudolf; Turkanaland; On the Kagwalas; On the shore of Lake Rudolf; Lomogol; Modo Pass; The Kotome River Camp; The Lorusia Sweep; Kangala; The aftermath; The dispersal; Back to Torit; Afterthoughts; Epilogue; Appendices; Index.

REVIEWED BY MAJOR A. VOLLMER

This is as delightful and interesting a personal World War narrative as has yet been noted, surpassing in human interest even those others from the same theater (Africa) by Lettow-Vorbeck and Mattenklodt.

On the southwest frontier of Abyssinia, west of Lake Rudolf, three countries under British control, join frontiers (Sudan, Kenya, and Uganda). Here live the Turkana—a numerous powerful tribe of naked savages. In 1917, aided by the Abyssinians, they were engaged in raiding British territory—ivory poaching, slave making, and worse. This book is a personal account of the combined expedition, from East Africa and the Sudan, organized to punish them.

The author, twice wounded on the Western Front in Europe, and condemned to home service, contrived to be accepted by the Egyptian Army. To get to the Mongalla province involved a twenty day journey by steamer from Khartoum, and seven days overland. Then he was still 300 miles from Lake Rudolf where the combined operations were to commence.

The numerous trials and difficulties of this tropical service in the extreme hinterland are depicted. The account is modest, though vivid and realistic, and shows a sense of humor. It is humanized by the recital of game hunting encounters, often necessitated by subsistence demands. An interesting case of a decision not to obey orders is given on page 95 and following.

Considerable success was achieved by the expedition—great numbers of cattle were recovered and the Turkana and Abyssians severely chastised.

Young, C. Walter.—**The international legal status of the Kwantung leased territory.** 1931.....M 9518

CONTENTS: General preface; Foreword; Map of the Kwantung leased territory; Introduction; Sovereignty and jurisdictional rights; The original jurisdictional rights of Russia; War, neutrality and the leased territory; The acquired jurisdictional rights of Japan; Extraterritoriality and the Kwantung lease; The status of Kwantung in international law; The extension of the lease period in 1915; China's right to recover the lease; Appendix A. Tests of exchange of notes of 1915; Bibliography; Index.

REVIEWED BY MAJOR R.O. BARTON

This book is the second of three volumes which comprise a series under the general title: "Japan's Jurisdiction and International Legal Position in Manchuria."

The book is a study in the politics and international law pertaining to the Kwantung Leased Territory. "The materials of the historian have been drawn upon only to furnish the essential stuff for a background and to present a sequence of events which is essential to a delineation, description and evaluation of the particular categories of politics or law dealt with." It analyzes well the international legal status of the Kwantung Territory and the treaties by which it came into Japan's possession. Highly technical and dealing with an unusual case, the book is of value to the student of international law and of interest to the student of, or one concerned with the problems of the Far East.

To a layman, the outstanding features are: The differentiation between sovereignty and jurisdictional rights; the discussion of the "disguised cession" and analogy to private lease aspects of the case; and the development of the conclusion that "In international law, Kwantung is *sui generis*."

This volume is too technical to be of general value to this School.

Section 5
SUBJECT INDEX

In this category the subject headings are arranged, alphabetically, according to the Library system of subject-indexing books and periodicals. All military subjects are grouped under certain main headings: ARMIES; ARMS & SERVICES; JOINT FORCES IN CAMPAIGN; NAVIES; WARS; and these, in turn, are divided into certain subheadings pertaining to the major group, viz:

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